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ORIGINAL ARTICLES.

SPASMODIC AND ORGANIC STRICTURE OF THE ESOPHAGUS: A REPORT OF TWO CASES.

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CASE I.—C. W. J., a paper-maker, aged forty-five years, was admitted to the University Hospital on April 8, 1893, suffering with difficulty in swallowing. The history, family and personal, was as follows: His father and mother both died in advanced life, the one with dropsy, the other from pulmonary tuberculosis. Three sisters died of scarlet fever and four were living, of whom one had been abed for two years with "nervous prostration." There was no other neurotic history. The patient himself had had scarlet fever severely when seven years old, with especially severe angina, and spotted fever at seventeen. After the latter age he had been uniformly well, excepting that he suffered from time to time with choking sensations, which he thought began after the attack of scarlet fever. He was never able to swallow a bolus of large size, and during the spells of choking he would be wholly unable to swallow. These paroxysms were frequent, and scarcely a week passed without more or less difficulty in swallowing. The duration of the paroxysms varied from an hour or two to a few days. The patient had been married twice and had had seven children, three of which had died in infancy. He was an immoderate smoker, but did not use alcohol excessively. His work had been very exacting, frequently occupying eighteen hours of the day.

The illness that brought him to the hospital had begun three weeks before, with difficulty in swallowing like that which he had so frequently experienced, but instead of relief after a few hours or days, the dysphagia grew worse until he declared that there was inability to swallow even water. Meantime he had been rapidly losing in flesh and strength, his weight being 122 pounds, as against his normal weight of 142 pounds.

I was called to see him at his home, and found that a diagnosis of incurable organic stricture had been made, and that his death was confidently expected at an early day. His appearance certainly did not make the prognosis seem improbable. He was advised to go to the hospital immediately.

On admission the patient was greatly emaciated and extremely weak, and his appearance was not unlike that of a man in the last stages of a chronic wasting disease. The skin was dry and wrinkled and the mucous surfaces pale. He was offered a glass of water, but on repeated effort was unable to swallow the least part of it. His temperature, as might be inferred from his general state, was subnormal, but the rate of the pulse and that of the respiration were increased. The urine was scanty and high-colored, but normal in other respects. The patient was in a somewhat excitable condition and disposed to be dramatic in the description of his sufferings. During the first twelve hours in the hospital he took no food at all, but on attempting to swallow milk promptly regurgitated the whole of it.

The diagnosis in such a case as this is a most important matter. In any case in which there is a history such as this man gives, of paroxysmal dysphagia, attacks coming and going at short intervals and with great suddenness, our first thought naturally suggests spasmodic contraction; but we must never be guided too strictly by a history received from the patient himself. Still, in this case, we had also the confirmatory story of the patient's friends, who are intelligent and judicious people, that he had for a long time suffered paroxysms such as he described; that his present disease had begun just three weeks before his entrance into the hospital, and that the loss of flesh had been as great as he stated.

With this history it could not be doubted that the man had formerly suffered from spasmodic stricture, though his sex and age and character as a steady, hard-working man were against this diagnosis. Still it is by no means unknown to find the disease among males even of somewhat advanced years. Another question, however, presented itself, and the decision of this would have required special investigation—that is, whether there was not secondary organic stricture to account for the present and persistent dysphagia and the great emaciation. Certainly no one looking at the patient and knowing only the history of his disease during the three preceding weeks could have believed this to be a case of spasmodic stricture, for, though the complaints of patients with esophagismus are often more loud and the attempts at swallowing apparently more futile than in organic stricture, there is usually fair preservation of the weight, and there may be no emaciation at all. Certainly the rapid and extreme loss in weight in our case was an unpleasantly suggestive symptom, especially when taken in relation with the age of the patient. In this aspect of the case it is interesting to recall that a neoplasm or other lesion of the esophagus or surrounding parts may, by reflex action, give rise to paroxysms of dysphagia long before the lumen of the esophagus is sufficiently encroached upon to occasion continuous obstruction. In such a case, however, the complete occlusion would have come on gradually, and there would have been a slow transformation of paroxysmal into continuous dysphagia, whereas in our patient the final attack was quite as sudden in onset as any of the previous lesser ones. It is also possible that repeated spasm of the esophagus may eventually lead to fibroid overgrowth and stricture of the walls, much as the

spasmodic contractions of the pylorus from hyper-acidity are believed to sometimes occasion fibroid thickening in that situation ; but here again a gradual increase of dysphagia would occur, and not a sudden obstruction ; and, besides, it has not been definitely proved that fibroid stricture does so occur.

The sudden onset, the previous history, the suspicion of neurotic character imparted by the somewhat dramatic tone and manner of the patient, and the nature of his efforts at swallowing, all inclined us to view the case as one of purely spasmodic stenosis, and encouraged the hope that we could relieve the apparently desperate condition in spite of the fact that the man had suffered such extreme emaciation and presented other appearances of a serious organic disease.

On the morning following his admission to the hospital, he was, with considerable formality, taken before the medical class in order that the attempt to pass an esophageal bougie might be made. He was warned solemnly that even if it were found that no organic stricture existed, it would be necessary to repeat the operation frequently unless the power of swallowing returned. The result was that in spite of considerable pain and difficulty the largest size was at once introduced into the stomach. There could now be little doubt of the nature of the case, for, had there been even a slight obstruction of organic nature, it would have been impossible to pass a sound of the dimensions of that used. For some hours after the passage of the instrument the patient complained of pain in the chest and of persistent inability to swallow. Galvanism of the neck was then resorted to, one pole being placed posteriorly, the other anteriorly, and at the same time chloral was administered in peptonized milk by the rectum. Two hours later the patient asked for a glass of milk, which he drank without the slightest difficulty ; and during the succeeding night, and for several days, he ate and drank all forms of food ravenously and without the least sign of dysphagia. The improvement in the patient's appearance was remarkable. Almost at once his features assumed a healthier appearance, and in a single week he had gained seventeen pounds, when he was discharged from the hospital apparently well ; and in the seven months which have elapsed there has been no recurrence.

Much interest attached to this case in the first place on account of the extreme and rapid emaciation and the appearance of serious organic disease in a man whose age would at once suggest the possibility of esophageal carcinoma ; so that the diagnosis was of the greatest importance. Cases of this kind have been reported before, and, indeed, there have been a few in which death has occurred ; but they are exceedingly rare, and the latter are not free from suspicion of some underlying affection which has been overlooked.

In the further treatment of our patient it was necessary first of all to determine, if possible, the cause of the spasms, and to institute such measures as would obviate a recurrence. There was no question but that the hereditary neurotic element, which was so marked in the case of the sister, who was confined to her bed for two years, played a most im-

portant part, and it was necessary to reduce to the minimum all depressing conditions that might call this neurosis into active operation. Overwork, doubtless, was one of these exciting causes which would require careful regulation. Another was the immoderate use of tobacco. Perhaps a proper restriction of both of these factors, aided by the powerful moral impression produced by the passage of the bougie, would alone have sufficed to prevent recurrence ; but to still further guard against relapse we ordered for him a mixture containing elixir of ammonium valerianate, with the purpose of tranquillizing nervous excitement. The fact that there has been no relapse is conclusive that these measures have struck at the root of the trouble, and it may be hoped that with this treatment and with the use of suitable tonics recurrences may be entirely obviated. It is always interesting to inquire what subtle anatomic or physiologic influence may exist to determine the localization of affections evidently originating from constitutional tendencies and general predisposing causes. I incline to think that in this case the peculiar and rare expression of the neurotic diathesis and of the depressing influence of overwork and tobacco excess is to be further explained by the anatomic datum of a narrow esophagus at the cricoid level and by the lasting impairment of physiologic tone left by the severe scarlatinal angina.

Quite different from the first case is one that occurred in the wards at the same time, and which is useful to contrast with the other. The history is as follows :

CASE II.—J. S., aged fifty-five years, a laborer, was admitted to the University Hospital, complaining of great weakness and difficulty in swallowing, and vomiting. There was nothing in the family history bearing on his condition. He had been a very hard drinker, and had lived an exposed life. There was no evidence or history of syphilis. He had never been ill excepting after injuries. He had dislocated his shoulder, and had suffered necrosis of the jaw from injury in the extraction of a tooth. Some years previously he had suffered considerably with hemorrhoids. A year before his entrance into the hospital he began to lose in flesh and strength, and found that he would easily grow faint. He never fell, but frequently became very dizzy. At the same time he had difficulty in retaining food, and gradually abandoned solid diet entirely. It was impossible for him to continue at work, and he was admitted to a hospital, where esophageal bougies were passed.

On admission to the University Hospital, he was greatly emaciated, the ribs standing out prominently and the belly being scaphoid. The skin was dry and harsh, and of an icteroid hue. On physical examination it was found that the percussion-note over the lungs was hyper-resonant and the breath-sounds were feeble, with prolongation of expiration. Posteriorly there were snoring and subcrepitant râles near the bases. The cardiac dulness was difficult to determine, but was apparently much decreased. The heart-sounds over the apex, as well as over the aortic region, were extremely feeble, and sometimes almost inaudible. The apex-beat was quite

invisible and impalpable. The hepatic dulness extended from the seventh rib to the costal margin in the nipple line. Over the abdomen there were numerous greatly distended veins, especially at the sides; and on palpation the aorta could be distinctly grasped. The patient was so weak that he was confined to bed, and there was evidently considerable anemia. Examination of the blood showed 3,950,000 red blood-corpuscles to the cubic millimeter and 65 per cent. of hemoglobin. The urine was normal.

At every effort to take solid food there was extreme distress, and very soon regurgitation of the food mixed with considerable mucus. Evidently the food did not reach the stomach. The man was, however, able to swallow milk, though even this was often regurgitated.

There was evidently in this man esophageal obstruction of high grade and organic in nature. The history and the actions of the patient were in sharp contrast with those in the other man, though each was emaciated and sallow. In the present case, however, the esophageal bougie was resorted to with some hesitation for the reason that certain features in his case made aneurism of the aorta not improbable. The radial and temporal arteries were rigid; there was marked arcus senilis and evidence of arterial degeneration also in the reduced size of the liver. Careful physical examination, however, failed to reveal any evidence of aneurismal dilatation of the aorta, either by the existence of dulness or abnormal pulsation or by alteration in the heart-sounds or pulses. The question of aneurism was therefore dismissed. The smallest esophageal bougie was finally introduced into the esophagus. Six inches below the incisor teeth this met with some resistance, to overcome which pressure was required, but the instrument finally slipped on as if over a ridge. This was doubtless the projection of the cricoid cartilage. Eleven inches from the teeth there was a second and decided obstruction, through which the instrument could not be pressed without the use of unwarrantable force. After some manipulation it was determined that a little pressure sufficed to insinuate the bougie into the upper part of the narrowed portion, below which a greater narrowing prevented further penetration. There was no doubt, therefore, but that there was decided organic constriction, and it remained only to determine the nature of the stenosis.

Practically the three important causes of organic stenosis, apart from compression of the tube from without, are strictures following chemical irritants, syphilitic stricture, and carcinoma. The first of these was easily disposed of, for it would scarcely be possible for the patient to have forgotten the swallowing of a substance corrosive enough to occasion a subsequent stricture. Syphilis, however, must not too readily be set aside, for the patient may be ignorant of the infection or may wilfully conceal its existence. We must look to the physical examination to reveal other evidences of syphilis, such as

enlarged post-cervical, epitrochlear, and inguinal glands, scars about the legs or elsewhere, periosteal nodes, old iritis and the like. The most careful examination and the most cautious questioning of our patient, however, made it certain that he had never acquired syphilis, and we were forced to conclude that the stenosis was due to carcinoma. This diagnosis accorded very well with the manner of onset of the disease, with the age, and with his general condition. Sometimes it is possible to obtain definitely conclusive evidence by the discovery of secondary nodes in the liver or in the lymphatic glands of the neck, but metastasis is present in only a minority of instances, and was wanting in this case.

The question of treatment in cases of esophageal carcinoma is in all respects similar to that of other forms of stenosis. The passage of bougies at regular intervals seems to keep the lumen of the esophagus open, by dilatation and possibly by repressing the exuberant growths upon the surface. Sometimes in the course of esophageal carcinoma with almost complete obstruction, there is sudden cessation of the symptoms, so that the case may simulate spasmodic stenosis, until the subsequent recurrence and course prove conclusively the nature of the case. In these instances there has been more or less ulceration on the surface of the growth, which leads to the sudden detachment of a slough and the consequent disappearance of the obstruction and the attendant symptoms. By passing bougies systematically we favor this tendency and may maintain the opening for a considerable length of time. It is always to be remembered, however, that the passage of the instrument is attended with the danger of perforation through the softened and ulcerating tissues. When the stenosis is considerable, therefore, no amount of force should be used, but by successive gentle efforts it may be possible to overcome the stricture. In any case, and no matter how well the lumen of the esophagus is maintained, the strength of the patient gradually declines, cachexia becomes more profound, and death finally occurs from exhaustion. The fatal issue may be somewhat postponed by rectal alimentation, and morphin promotes euthanasia. The operation to establish a gastric fistula has been performed repeatedly, but there is little hope of prolonging life in this way, for the esophageal growth tends to extend to the mediastinum and lungs, and to involve other organs by metastasis.

The Communicability of Tuberculosis.—The Michigan State Board of Health has decided to include all diseases dependent upon the presence of the bacillus tuberculosis in the official list of "diseases dangerous to the public health," of which notice is required to be given by householders and physicians to the local health officer as soon as such a disease is recognized.

TROPICAL DIARRHEA.¹

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TROPICAL diarrhea, diarrhea alba, white flux, sprue, psilosis, etc., are synonyms applied to a form of disease that occurs as the result of residence in China, Cochin China, Batavia, Java, the Indian and Malayan peninsulas, Ceylon, and probably in other tropical and sub-tropical countries, and occasionally in extra-tropical regions.

This is a form of disease that, if not always, is generally the result of tropical and climatic influences, and the debility and cachexia thereby induced. It is now not infrequently observed in Europe, owing to the ever-increasing means of communication with foreign countries. It is apparently generally confined to adults, is insidious in onset, slow in progress, and, owing to irreparable degenerative changes, when not arrested sufficiently soon, is often fatal.

It has been described by many observers, both English and foreign, in India, China, and Batavia. Most of the cases seen in this country come from China, India, or Ceylon. In India it is frequently met with, where a form of it is known as "hill diarrhea," from its proneness to affect dwellers in hill stations, especially those who have previously lived on the plains. Atmospheric changes, vicissitudes of temperature, greater altitude, rarefied atmosphere, and possibly water, are concerned in its causation. Some authors consider it a disease distinct from the white flux, which may be seen in any part of the country, but they are so much alike as, for practical purposes, to justify the belief in their identity. Occasionally there is a resemblance to certain forms of chronic dysentery. The two conditions may be associated, or one may merge into the other.

Tropical diarrhea occasionally makes its appearance years after the subject of it has returned from the tropics. It not unfrequently begins without any previous apparent derangement of health, though it is sometimes preceded by dysentery, diarrhea, some indication of malarial infection, or functional derangement of the liver, or other abdominal viscera, and is not noticed until excessive soreness of the tongue, and loss of strength and wasting, reveal the gravity of the condition.

People in India, suffering from malarial cachexia, are likely to be troubled with diarrhea of an irregular character, which, if not promptly dealt with, may be the precursor of the chronic form, and

is often obstinate enough, especially if there be hepatic or splenic complications, or any vestige of previous dysentery, but it is not so grave in character as the white diarrhea. This latter, however, in all its forms, if carefully and promptly treated at the outset, and unattended by structural changes in the viscera, is comparatively amenable to control.

SEMEIOLOGY.—This form of diarrhea, as I have said, may begin with simple looseness of the bowels, or may supervene upon an ordinary diarrhea or chronic dysentery. The action produces a sense of relief. The dejecta at first may be natural and bilious, but gradually become light-colored, frothy, pultaceous, and copious. As the disease advances they are occasionally tinged with blood, and the sufferer becomes more attenuated, exhausted, and incapable of any prolonged exertion. The appetite may be good, but rawness and tenderness of the mouth and tongue, frequently accompanied by aphthous spots and ulcerations, interfere with its gratification. Deficiency of bile is suggested by the appearance of the dejecta, whilst the microscope detects vegetable and fibrous tissue, or other portions of the ingesta passing unaltered, as well as certain forms of micro-organisms. This light color, which is irrespective of the nature of the diet, is not due to any specific disease of the liver, which only shares with other organs the shrinking due to general wasting.

Diarrhea is not always a prominent symptom of this disease, and, according to my experience, cases occur more frequently in patients from Ceylon, where general wasting and soreness of the tongue are the chief characteristics, though, at the same time, the excreta are of normal color.

The subjects of tropical diarrhea are pale and emaciated, with the skin dry, flaccid, sallow, and sometimes pigmented in patches. The abdomen is soft and flaccid, the eyes become pearly and sunken, the gums pale and shrunken, the lips and conjunctivæ blanched and anemic. The tongue, at first pale and flabby, becomes shrunken, red, and glazed; the papillæ are obliterated; it is raw, smooth, and tender, often affected, as is the buccal mucous membrane, by aphthous ulceration, and in some cases covered with a black coating of white epithelial scales. The state of the tongue is generally significant of the stage of the disease, return to the normal condition being a hopeful sign, while increased smoothness and tenderness, with aphthæ, are of evil augury.

Evidences of malarial influences are shown at the outset, and sometimes in the course of the disease, by recurrences of fever, by vague conditions of malaise, or by myalgic or neuralgic disorder.

The symptoms described may be mitigated by treatment, but the improvement is often more apparent than real. The disease slowly and surely

¹ Read before the International Congress of Public Health, Chicago, 1893.

progresses until the patient is compelled to seek change of climate. Should this be of no avail, the symptoms increase in gravity; the breathing becomes feeble and accelerated; the temperature subnormal; the extremities edematous; anemia is profound, and the urine often albuminous; the catamenia are suspended or diminished. If this evil condition be not arrested, and it seldom is checked when it has gone so far, fatal exhaustion or pulmonary embolism or thrombosis soon closes the scene.

This condition appears to be the consequence of general degeneracy rather than specific disease of any one organ, though the intestinal tract seems to be the seat of the most marked change.

MORBID ANATOMY.—When death has occurred at an early period the intestines have been found contracted, with the mucous lining thickened, congested, and even ulcerated; but when death takes place at a later period, the coats of the bowel are found to be attenuated, diaphanous, and the seat of fatty and lardaceous degeneration, with occasional ulceration in the ileum or colon. The intestinal and mesenteric glands are atrophied and degenerated, the latter sometimes enlarged. The mesentery itself is wasted, the liver shrunken, pale, and contracted, so as in life to have given rise to the belief that it was specially atrophied. The spleen, pancreas, and kidneys are in a similar condition. Occasionally, though not in ordinary cases, there may be chronic enlargement of the liver, or of the spleen, or of both. There is not so much surface-change as thinning of all the coats of the small intestine, so that they become translucent; when dysenteric symptoms have appeared, ulceration of portions of the colon has been found. According to the experience of Dr. McConnell, professor of pathology in Calcutta, amyloid degeneration of the bowel is rare among natives of India, but he confirms the accuracy of the account given by Dr. D. D. Cunningham, of the morbid anatomy of the intestines of the sufferer from chronic diarrhea and dysentery in famine seasons. The valuable report of Dr. Cunningham on the famine diarrhea—of which the condition is probably analogous to that now under consideration—shows how the degenerative changes involve the intestines, as well as the other viscera, and the general result of the entire series of observations on the morbid anatomy is to show that the diseased conditions were specially characterized by extreme general anemia and destructive processes affecting the mucous membrane of the intestinal canal. This latter characteristic is also pointed out by Aitken and Virchow. The absence of epithelium and the obliteration of villi are very remarkable in the tongue, and besides these characteristics an absence of fat and a general wasting of the tissues are conspicuous.

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With regard to the bacteriology of the diseased conditions due to tropical diarrhea, Professor Macfadyen points out that in the normal bacteriology of the digestive tract there are a large number of bacterial species, and that this is the case also in the normal small intestine, no one kind predominating. Its contents have a faintly acid reaction, which has inimical effects on the growth of organisms. The bacteria normally present in the small intestine ferment carbohydrates, but do not decompose albumins.

Dr. Macfadyen found the stools from a case of tropical diarrhea to be crowded with microorganisms, of which one kind, a bacillus, predominated; it was like the anthrax-bacillus, somewhat thickened, with flattened ends, and motile. He found no ameboid organisms, but, as he remarks, that does not prove that they were not there. It has, he maintains, undoubtedly been proved that in some diseases of the digestive tract, occurring in hot climates, large numbers of ameboid organisms are to be found in the large intestine. Many interesting investigations into this subject have been made by Kartulis, Osler, of Baltimore, Councilman and Lafleur, and others, but we are not yet in a position to assign them a definite rôle in the causation of intestinal disease.

Dr. Thin describes the cultivation of thirteen distinct forms of organisms that he obtained from a case of this disease, and their different effects on gelatin. In a more recent communication (April, 1892), he brings forward reasons to show that in the so-called sprue the reactions of the intestine are abnormal, and he argues that this must induce abnormalities in the development of the bacteria normally present in the bowel, which in its turn might account for the abnormal coloring of the stools.

TREATMENT.—From the insidious character of the disease, tropical diarrhea not infrequently gains ground before radical measures for its relief are resorted to. Successful issue depends much on the patient's resolution and perseverance in carrying out instructions. Alterations of temperature, errors of diet, fatigue or excitement, exertion, mental or physical, should be avoided. Physiologic rest should be insisted on.

There is a tendency in the earlier stages to get well. The object is to favor this tendency, and not thwart it by neglect of precautions. Diet is the most important consideration, and must be strictly regulated and adhered to; and scarcely less important is the question of clothing, habits, and mode of life.

Milk should be the sole and only diet, and it must be given in small quantities, often repeated, say from four to six ounces every hour, day and night. Larger

quantities at longer intervals will not do. When in the twenty-four hours an adult is able to take from three to four quarts of cow's milk in this way, ample nourishment is afforded to support his strength and to enable him to recover.

This method of treatment was begun by me before leaving India in 1872. After prolonged experience and trial of all other forms of remedies, I have found it more effective than anything else. It seldom fails, except in the very advanced and chronic cases, or in very aged persons. In ordinary cases it must be adhered to for three weeks, a month, or six weeks, when changes or additions may be tentatively and gradually made. Occasionally it may be expedient to add a little water, lime-water, or soda-water, but it is seldom necessary to dilute the milk. Tea, coffee, or cocoa, as a general rule, disagree. Alcoholic stimulants for those who have long been accustomed to them may be necessary, but should be cautiously administered in limited quantities (from two to six ounces a day). The best are old brandy or whiskey given with the milk or some alkaline water. As a rule, all wines are unsuitable. Regularity in times of administration, and the quantity of milk given, is most essential. It is generally well to begin with two or three ounces per hour, increasing to six. In very aggravated cases it may be expedient to give one or two ounces every half-hour. If, after three weeks or a month the diarrhea has entirely ceased, and for some time, if the tongue be less red and sensitive, and if the papillæ have reappeared, a slight addition may be made, but not unless this is the case. After taking the milk for some days the tongue becomes coated with white fur, but is less red at the tip and edges; the aphthæ often present disappear, as well as the abnormal sensitiveness. The diarrhea probably gives place to constipation, and the patient feels better in all respects. When this condition has been attained a change in diet may begin.

At first bread, not recently baked, and thoroughly incorporated as crumbs in the milk, may be added in small, gradually increasing quantities. After a week or more, a little finely minced mutton or chicken, not previously cooked, may be given. If the improved condition continues, a little light pudding or other farinaceous food should be given, followed by a very tentative and gradual return to meat and vegetables and other light food, but if any sign of irritation recurs, milk-diet should be at once resumed, and continued until all disturbance has ceased. It is very difficult for the patient to realize the danger of indiscretion, the need for care and caution, but these difficulties are often surmounted and complete recovery takes place.

In addition to these precautions in diet, others

must be observed. These are warmth, complete rest, and, if possible, residence in some mild and sheltered locality. The latter, however, is not to be insisted on if it involves the loss of the care, comfort, and attention of home-nursing. The greater part of the twenty-four hours should be passed in a recumbent position, at any rate in the earlier stages. As the condition improves—of which the state of the tongue, as well as a diminution of the diarrhea, is the best indication—the patient may take moderate exercise, but all fatigue should be avoided. Long after recovery is apparently complete, vicissitudes of temperature, over-fatigue, and errors in diet must be carefully avoided. It may be necessary to delay return to a tropical climate for a year, if not indefinitely.

The careful use, in the early morning, of saline laxatives, combined with some bitter infusion, may be beneficial to relieve abdominal plethora and portal congestion, but care must be taken not to produce overaction. To allay irritability and to give tone, small doses, from three to five drops, of liquor arsenicalis, twice a day, continued over a period of weeks, with occasional breaks of three or four days, may be beneficial. When the bowel is very irritable, with pain and a tendency to watery discharges, doses of from five to ten minimis of tincture of opium, or a few grains of Dover's powder, may be useful. Later on, as recovery progresses, mild preparations of iron, especially the potassio-tartrate, may be beneficial. Experience, however, has shown that with the exceptions already alluded to, drugs are of little use.

The hygienic and dietetic precautions mentioned are generally successful, unless visceral complications of a structural nature have occurred, or the patient be exhausted by age or debility, or the disease be in a very advanced stage. Unhappily, many who fall in the latter category succumb, whilst some suffer frequent relapses from neglect of rules laid down, and die from inanition and exhaustion; hence the necessity for early treatment and rigid adherence to the simple though irksome regimen which experience has shown to be the best. When the milk has failed, it has frequently been because it had been mixed with other food, or has been taken at irregular intervals and in too large quantities at a time.

The conclusion is that, though drugs are generally of little avail, if milk, taken as prescribed, does not succeed, there is but small chance that any other form of treatment will do so.

De Renzi has succeeded the late Professor Cantani at the first medical clinic at Naples, while Carderelli succeeds *De Renzi* at the second medical clinic.

**REPORT OF A FIFTH SERIES OF CASES OF
ENTERIC OR TYPHOID FEVER TREATED
BY SYSTEMATIC COLD BATHING IN
THE GERMAN HOSPITAL,
PHILADELPHIA.**

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FROM the introduction of the treatment of enteric fever by systematic cold bathing according to the method of Brand, in the German Hospital, February, 1890, until June 1, 1892, 226 cases were treated, of which number twelve terminated fatally, giving a death-rate of 5.3 per cent. The hospital statistics relating to the subject were published in detail in this journal last year.¹

During the year terminating June 1, 1893, 74 additional cases have been treated by this method, bringing the total number up to 300.

The following table, compiled from the records of the hospital by Dr. Hand, resident physician, shows in detail the date of admission, the sex, age, the day of the disease as nearly as could be ascertained upon which the patient entered the hospital, the highest recorded temperature, the first day of the attack upon which the temperature fell to normal, the number of days in the house, and the number of baths administered in each case:

CASES OF ENTERIC FEVER TREATED BY SYSTEMATIC COLD BATHING.

Series No. 5. June 1, 1892, to June 1, 1893.

No.	Admitted.	Sex.	Age.	Day of disease.	Max. temp.	First day normal temp.	Days in house.	No. of baths.
1	May 25	F.	25	10	105.8	38	61	15 ²
2	June 3	M.	15	8	104.8	22	39	33 ³
3	7	F.	19	10	105.8	30	60	94
4	9	F.	16	...	...	16	8	8
5	21	M.	22	8	104.4	15	30	31
6	22	F.	29	...	...	34	28	28
7	July 14	M.	36	10	105	...	16	69 ⁴
8	15	M.	26	5	105.6	23	42	67
9	24	M.	36	6	104.8	15	40	43
10	29	M.	24	12	104.2	18	28	28
11	29	F.	21	4	104.4	17	49	109 ⁵
12	Aug. 3	M.	38	7	104.2	15	40	34 ⁶
13	4	F.	30	3	104.6	17	48	53
14	11	F.	21	14	103.4	31	63	53 ⁷
15	12	M.	18	3	104.4	10	31	47
16	12	M.	25	4	104.2	18	43	66 ⁸
17	16	M.	46	...	104	...	29	31
18	18	M.	16	6	104.2	18	42	12 ⁹
19	18	F.	18	12	102.4	18	37	7
20	25	M.	33	8	104	16	24	29
21	30	M.	32	6	103	13	31	8

¹ MEDICAL NEWS, November 26, 1892.

² One relapse.

³ Repeated hemorrhages.

⁴ Death.

⁵ One relapse.

⁶ One relapse.

⁷ One relapse.

⁸ Vide post-mortem note.

⁹ Repeated hemorrhages.

No.	Admitted.	Sex.	Age.	Day of disease.	Max. temp.	First day normal temp.	Days in house.	No. of baths.
22	Sept. 1	M.	22	...	102.2	...	19	2
23	1	M.	31	7	103.6	22	29	17
24	1	M.	26	14	105.2	28	29	59 ¹
25	4	M.	28	5	104	12	21	20
26	4	F.	66	30	104.4	47	51	24
27	7	M.	18	4	104.6	12	40	31
28	16	M.	19	...	...	34	69	
29	21	F.	31	7	104.4	16	33	25
30	23	F.	27	4	104.8	15	29	37
31	23	M.	30	...	104.6	...	34	32
32	26	F.	10	10	105.4	16	23	97 ²
33	Oct. 8	M.	32	4	105.6	19	34	61
34	10	M.	23	...	104.6	...	23	31
35	12	M.	28	...	103.4	...	19	3
36	16	F.	24	7	104.2	14	50	19 ³
37	31	M.	17	...	104	...	29	2
38	Nov. 2	M.	23	...	106.2	...	42	17
39	4	M.	23	...	104	...	29	3
40	4	M.	22	...	104.6	...	29	14
41	6	M.	23	...	105.4	...	21	41
42	13	M.	19	...	104.2	...	22	12
43	17	M.	19	...	104.2	...	30	64
44	Dec. 15	M.	27	...	104.6	...	31	82
45	16	M.	46	...	103.4	...	28	22
46	19	M.	21	...	106	...	40	195 ⁴
47	31	F.	19	4	104.4	11	26	24 ⁵
48	Jan. 3	F.	17	5	104.8	23	37	21
49	Feb. 18	M.	20	7	105	...	12	34 ⁶
50	20	M.	23	9	102.2	15	21	3
51	23	M.	49	...	102.6	...	35	7
52	23	M.	19	7	104	15	32	48
53	24	M.	15	6	106.2	...	17	112 ⁷
54	25	M.	24	7	104	17	42	67 ⁸
55	Mar. 3	M.	30	...	105	...	39	20 ⁹
56	3	F.	22	5	104	45	82	147
57	12	F.	18	4	103.4	14	69	12 ¹⁰
58	28	M.	26	7	106.4	...	20	123 ¹¹
59	29	F.	19	4	104.4	16	38	47
60	April 3	F.	28	8	105.8	29	77	105
61	5	M.	26	3	104.4	21	37	103
62	12	M.	24	8	104.8	...	8	45 ¹²
63	22	M.	42	8	105.2	26	43	60
64	23	F.	29	12	103.2	18	70	4 ¹³
65	May 5	F.	27	6	104	14	29	16
66	9	F.	18	2	105	19	41	20
67	10	F.	29	5	104.6	20	35	38
68	12	M.	20	8	105	16	27	36
69	13	M.	18	12	105.8	...	20	95 ¹⁴
70	15	M.	21	8	104.6	18	70	76 ¹⁵
71	20	F.	20	2	105.4	16	37	53
72	29	M.	18	10	103.8	22	20	28
73	29	F.	25	3	105	20	89	75
74	30	F.	20	3	104.8	19	49	25

Total number of cases, 74; deaths, 8; mortality, 10.8 per cent. Relapses, 10—13.5 per cent.

The patients were chiefly adolescents and young adults. Children are not received into these wards, as there is in connection with the hospital a children's infirmary; 58 cases (78 per cent.) were under 30 years of age.

¹ One hemorrhage.

⁸ Relapse and death.

² One relapse.

⁹ Relapse and death.

³ One relapse.

¹⁰ Repeated hemorrhages, pneumonia, and death.

⁴ Meningitis and death.

¹¹ One hemorrhage.

⁵ One relapse.

¹² Death.

⁶ Lobar pneumonia on the twenty-first day.

¹³ Hemorrhages and death.

⁷ Remained for treatment for organic nervous disease.

¹⁴ Hemorrhages and death.

⁸ One relapse.

From 15 to 20 years	20
" 20 " 25 "	21
" 25 " 30 "	17
" 30 " 35 "	8
" 35 " 40 "	3
" 40 " 45 "	1
" 45 " 50 "	3
66 years	1
Total	74

Baths : Average number, 44; smallest, 2; largest, 195. Average number of days in the hospital of the non-fatal cases, 33.

Notes on the fatal cases :

No. 7.—G. H., male, thirty-six years of age, was admitted on the tenth day of the disease, having had hemorrhages before admission ; he lived sixteen days in the hospital.

No. 32.—M. L., female, nineteen years of age, was admitted on the tenth day of the disease ; normal temperature on the sixteenth ; relapse on the nineteenth ; death on the thirty-third.

No. 46.—A. K., male, twenty-one years of age, admitted in a very weak condition ; about the second week of the disease, pulse 172, temperature 106° ; improved with the baths, and temperature came down to normal ; after a week, relapse began ; emaciation extreme ; death at the end of the second week of the relapse.

No. 49.—J. K., male, twenty years of age, admitted on the seventh day of the disease ; hemorrhages on the ninth day ; pneumonia on the fourteenth day ; death on the nineteenth day.

No. 53.—G. S., male, fifteen years of age, admitted on the sixth day of the disease ; in the morning remissions during the first week the temperature was but twice down to 103.5° ; highest temperature 106.2° ; developed meningitis and died on the twenty-second day.

No. 58.—B. S., male, twenty-six years of age, admitted on the seventh day of the disease and had great mental depression from the outset ; died on the twenty-seventh day.

No. 62.—J. C., male, twenty-four years of age, a "walking case," admitted on the eleventh day of the disease, with spots ; hemorrhages on the fourteenth and fifteenth days ; passing by the bowel one hundred and seven ounces of material consisting largely of blood ; death on the fifteenth day.

No. 69.—W. C., male, colored, eighteen years of age, admitted on the twelfth day of the disease ; hemorrhages on the twenty-fifth and twenty-sixth days of the disease ; death on the thirty-first.

The total number of cases treated by this method to June 1, 1893, is 300 ; total deaths, 20—giving a death-rate of 6.6 per cent. In the entire series of 300 cases relapses occurred in 29 instances ; more than one relapse in two cases.

The following statistics, though based on a relatively small number of cases, support the generally accepted statement of Brand that the influence of the treatment upon the mortality is proportionately

favorable as it is instituted early in the course of the attack.

In Series No. 5, 20 cases were admitted on or before the fifth day of the disease ; of these, none died. Forty-two cases were admitted prior to the tenth day ; of these, 4 died, giving a mortality of 9.5 per cent. Twelve cases were admitted after the tenth day ; of these, 3 died, giving a mortality of 25 per cent. The day of the disease upon which the patient was admitted to the hospital was not noted in 20 cases.

In Series No. 4,¹ 12 cases were admitted on or before the fifth day ; of these, 1 died fifteen days later of a complicating meningitis. Thirty-six cases were admitted before the tenth day ; of these, 2 died, giving a mortality of 5.5 per cent. Six were admitted after the tenth day, with 1 death, giving a mortality of 16 per cent. The day of admission was not noted in 24 cases.

Taking Series 4 and 5 together, we note that of 32 cases admitted not later than the fifth day 1, or about 3 per cent., terminated fatally. In 78 cases admitted prior to the tenth day, the death-rate was 7.7 per cent., and in 18 cases admitted after the tenth day the death-rate was 22 per cent.

The dictum of Brand, that none of the cases in which the treatment is instituted prior to the fifth day are likely to terminate fatally, is well known. The fatal case in the fourth series, a boy aged thirteen, was admitted on the third day. The cause of death in this case, however, was meningitis occurring as an early complication.

In civil practice, except in local epidemics, the positive diagnosis of enteric fever can rarely be made as early as the fifth day. In hospital practice only a small portion of the enteric fever cases are received before the fifth day. In the service of the German Hospital patients are subjected to the bath-treatment if, upon admission, the diagnosis of enteric fever is probable or becomes so by exclusion. This practice has led to very few errors in diagnosis.

It is understood that in by far the greatest number of instances the date of the beginning of the fever can only be approximately determined ; only exceptionally does the disease begin with an abruptness that fixes definitely the day or hour of its onset. The general rule in taking the cases has been to date the beginning of the attack from the day on which the patient regarded himself as having fever or on which he was obliged to give up his occupation. The appearance of the eruption and enlargement of the spleen, which usually may be noted on the seventh or eighth day, rarely as early as the sixth and seldom so late as the tenth, are clinical events which aid in fixing the date of onset.

Ephraim, of Breslau, in a recent communication

on "The Significance of the Statistical Method in Medicine,"¹ says: "The statistics of the cold-water treatment of enteric fever are untrustworthy because this disease shows the widest variations in its prognosis, and because for this reason an enormous number of observations are necessary to establish the value of a method of treatment."

The treatment of enteric fever by systematic cold bathing according to the method of Brand now rests upon statistics that fulfil the second requirement of this criticism. The number of reported cases is enormous. They are the results of work done by different observers in all parts of the world, and many of the collections of cases, as those of Brand himself, those of the military physicians at Lyons, those of Hare of Australia, are sufficiently large in themselves to establish the value of this method of treatment.

To these we may now add the statistics of the German Hospital in Philadelphia, which are based upon the observation of a sufficient number of cases and extend over a period of time sufficiently extended to eliminate in part at least the errors arising from the variations in the prognosis of individual cases and in the intensity of epidemics in different years.

Certainly the literature of internal medicine shows no aggregate of statistics in regard to the treatment of any other disease that has reached such proportions and in which the treatment has been carried out with the same rigid adherence to rule.

A remarkable and instructive fact is this, that the statistics from various quarters and from relatively large and small collections of cases show a mortality percentage that is as a rule nearly constant, so that we may now regard it as demonstrated that the death-rate of enteric fever under the treatment of Brand, instituted early in the attack and rigorously carried out, does not range beyond 6 or 7 per cent., while the general statistics show a mortality under various other forms of treatment, most of which are essentially expectant-symptomatic, ranging from 15 to 25 per cent., and exceptionally, far higher.

It seems hardly necessary to dwell upon the importance of this difference in death-rate. What argument in favor of the treatment by systematic cold bathing can be more urgent or more conclusive? From eight to fifteen or more lives saved in every hundred cases, and this in the endemic fever of our historic period—an infection from the effects of which no large community is ever free—which is kept alive and fostered by the methods of living in civilized countries in this age! The from eight to fifteen lives lost in every hundred by adherence to obsolete and traditional methods are, as a rule, picked lives. They are taken from the best—

adolescents, young adults, the very flower and hope in every community. This is not the place to speak of the emotional effects of this sacrifice of life to routine. It is, however, proper to suggest the economic aspect of the matter, the appalling waste of young life that could so easily be saved.

We in the Western world are in the habit of speaking somewhat scornfully of Oriental apathy. Enteric fever and tuberculosis, the endemic scourges of our civilization, are in theory at least preventable diseases. Enteric fever is a disease in which, as has been demonstrated, the death-rate can be lowered from between 15 and 25 per cent., to 6 or 7 per cent., by the abandonment of traditional methods of treatment and the adoption of a different plan. Yet the older methods prevail.

Redmond, in a paper read before the British Medical Association in August, 1893,¹ makes the following remarkable statement:

"With the exception, however, of a paper by Dr. Sidney Coupland, in the *Lancet* for 1884, so far as I am aware, no attempt has been made through the medium of the medical journals to popularize the principle and remove that prejudice the undoubtedly existence of which, both in the professional as well as the public mind, constitutes the chief obstacle to the more general adoption of a line of treatment the practical evidence in favor of which can no longer be doubted by, I venture to affirm, any rational man."

The writer of the foregoing paragraph has overlooked much that would interest him in the medical journals of the last five years. Not to speak of the German and French reports upon the subject, he will find that many attempts have been made in the United States to break down the barriers that are in the way of the general use of the Brand treatment. Are the writings of Baruch, Sihler, Peabody, Thompson, Wilkins, and others on this side of the Atlantic, who have reported cases and detailed the method, wholly unknown to him? Is our work in the German Hospital in Philadelphia since the beginning of 1890, the subject of repeated articles in the journals, no effort to "popularize the principle" and remove prejudice? We have now reported 300 cases; Redmond's paper is based upon four observations.

Guaiacol Topically for Erysipelas.—BARD (*Le Mercredi Médical*, 1893, No. 42, p. 510) reports successful results from the topical application of guaiacol by means of a brush in the treatment of five cases of erysipelas. From fifteen to thirty minims of guaiacol were employed at each application, which extended for a short distance beyond the inflamed area, and was, as a rule, followed by a reduction of the temperature, continuing for several hours.

¹ Sammlung klinischer Vorträge, Volkmann, No. 70, 1893.

¹ Therapeutic Gazette, September 15, 1893.

TWO PROSTATECTOMIES—CELIOTOMY FOR TUBERCULOUS SALPINGITIS.

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IN two recent cases of prostatectomy I have had occasion, for the control of hemorrhage, to use the tampon recommended by Dr. E. L. Keyes.¹ It has been so satisfactory that I desire to indorse it in a brief report.

CASE I.—Oliver K. H., a Norwegian, aged sixty-four years, referred by Dr. N. E. Remmen, of Chicago, had suffered from the mechanical consequences of enlarged prostate for ten years, and during the last eight years of this period had used a catheter with a moderate degree of comfort. Four months before the patient consulted me he broke off five inches of an old No. 12 soft-rubber catheter in the bladder and prostatic urethra. He had retained the catheter after it had become old and

move the foreign body, which is represented in Fig. 1, and to palpate the enlarged prostate. The obstruction was found to depend upon the presence of a projecting mass the size of a hen's egg, acting as a ball-valve at the entrance of the urethra. This was removed by the scissors and forceps, and a channel, giving free communication between the retro-prostatic vesical pouch and the entrance of the urethra, was dug out in the same way. This part of the operation was performed as quickly as possible; still the hemorrhage from the scissor-cuts, rendered necessary by the toughness of the gland-tissue, was considerable. While hemostatic irrigation of the bladder with hot water was being performed, a tampon was made by tying a strong suture of silk to the middle of a pad of layers of iodoformized gauze four inches square. A steel sound was then passed by the urethra, and the free end of the suture fastened to its beak as it presented in the wound. Upon withdrawing the sound, traction upon the suture caused the tampon to descend, middle first, into the wound, and the finger quickly guided it to the vesical neck. The free end of the

FIG. 1.



brittle, because its stiffness, increasing with age, had facilitated its introduction. For two days the fragment of catheter remained in this position, allowing the urine to flow continuously. It then slipped back into the bladder, where, strange to say, it caused but little trouble. This was probably due to the fact that the patient had become accustomed to the unpleasant symptoms caused by vesical irritation. At the time the man consulted me the urine was being drawn about every three hours. There was a fair amount of vesical contractility. The urine contained a slight amount of pus, but no casts. Rectal examination revealed a moderate enlargement of the prostate gland. The patient's general condition was good. There was but a small amount of atheroma, and symptoms of toxemia were absent.

Supra-pubic cystotomy readily enabled me to re-

thread was fastened to a small roll of iodoform gauze at the meatus. The hemorrhage, after having almost entirely ceased during irrigation, had begun again. Traction upon the tampon now controlled it completely. Upon recovering consciousness the patient complained of no pain, the urine drained freely through the incision, and after thirty-six hours the tampon was withdrawn with forceps, with but little discomfort. The patient's recovery was uneventful.

CASE II.—Mr. W., aged sixty-seven years, began in April, 1893, to use the catheter on account of a prostatic enlargement, which had begun to produce obstruction two years before. In spite of daily irrigation of the bladder, catheterism soon failed to relieve the vesical irritability, although the instrument was passed every hour and a half. The patient, exhausted from worry and loss of sleep, begged for operative relief, and was referred to me by Dr.

¹ N. Y. Medical Record, September, 1892.

Fig. 1, structure, active, aethra, and a in the place of This quickly as -cuts, glandular, irrigating; percuture iodine-sound end in the traction ascend, quickly of the Reuben Peterson, of Grand Rapids, Mich. Examination revealed a rather large prostate; the residual urine was six ounces; the expulsive force was small; there were no renal casts; the general condition was good. Upon operating, the supra-pubic opening into the bladder revealed a napkin-ring-like mass of prostatic tissue projecting well into the bladder, with the urethral opening in its center. It was evident that the urine could only be passed through such an opening by the exercise of great force. In order to expose the prostatic tissue more freely to palpation, and to facilitate hemostasis and subsequent drainage, a perineal incision was made. The ring of prostatic tissue was incised with scissors in front of the urethra, and the finger was then introduced into this opening through the ventral wound. The new tissue in this case was deposited in nodules varying in size from that of a pea to that of a pigeon's egg. They were enucleated with the finger-tip after some difficulty, three hundred and ten grains of tissue being removed. A "low-level" channel was thus produced. Hemorrhage was not so severe in this as in the preceding case, because it was not necessary to use the scissors so freely. The Keyes tampon was applied, however, in the same manner, except that the suture was brought out through the perineum instead of through the penis. The suture was held in place by wrapping it around a roll of iodoform-gauze, to which it was clamped by a small hemostatic forceps. The tampon was removed after thirty-six hours. The patient made a satisfactory recovery.

The precision and rapidity with which hemorrhage is controlled after prostatectomy by this simple measure encourages the hope that we shall now be able to reduce our death-rate by this and other means to a point so low that we shall be justified in materially extending the indications of the procedure.

CASE III. *Tuberculosis of the Fallopian tubes and retro-peritoneal lymph-glands; partial obstruction of the rectum; celiotomy; definitive recovery.*—Mrs. S., twenty-six years of age, a German, has had three children; since the birth of the last, in November, 1892, she has lost her health. For several months her weight has been decreasing; her color is tawny and her appetite poor. Menstruation has been irregular and painful, and she has had leukorrhea. Obstinate constipation was not overcome by the stronger cathartics and the bowels only moved at intervals of about a week, the patient meanwhile suffering intensely from torments, the vermicular intestinal movements being visible through the abdominal walls.

Examination by the vagina disclosed slight lacerations of the perineum and cervix, as well as tubal distention, upon the right side the size of a hen's egg; upon the left side, that of a walnut.

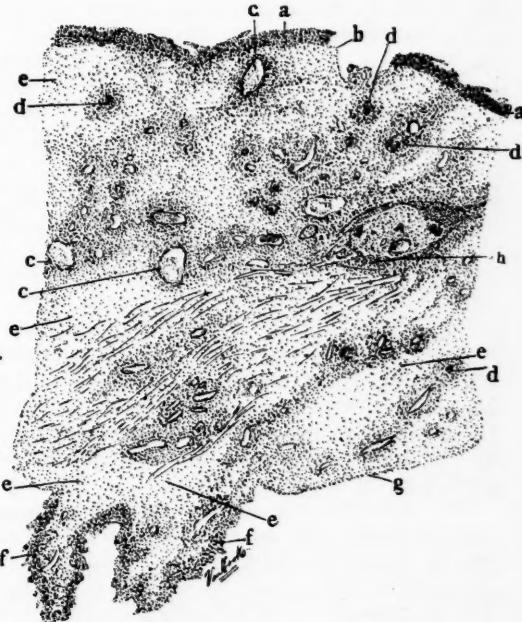
In preparation for celiotomy one-eighth-minim doses of croton oil were given three times before satisfactory evacuations were effected.

Abdominal section enabled me to remove the tubes in the usual way, although they were matted down tightly to the surrounding pelvic viscera, pro-

ducing in that way the constriction of the lower bowel that caused the obstipation. Behind the peritoneum, however, the lymphatic glands were enlarged to the size of walnuts in a chain extending from the small pelvis to the first lumbar vertebra. During the first few days there was much gaseous distension of the bowels, and laxatives gave the most meager results. On the twelfth day, however, several passages occurred spontaneously, one of which was enormous and contained fecal masses that were evidently very old. Small doses of cascara sagrada were afterward given, with perfect success, to move the bowels.

The temperature, which was elevated before the operation, fluctuated afterward in the irregular manner common in tuberculosis, between 98.8° and

FIG. 2.



Tuberculosis of Fallopian tube. Transverse section. $\times 24$.
Walls of tube much thickened.

- a. Infiltrated peritoneum.
- b. Defect of peritoneum.
- c. Bloodvessels containing blood.
- d. Small tubercles with giant-cells.
- e. Areas of caseation.
- f. Mucous membrane.
- g. Defect of mucous membrane.
- h. Large tubercle with giant-cells—beginning caseation.

101.8°. After the fourteenth day the temperature remained normal and all the symptoms improved. The patient has recovered her health in every way, and I believe the tuberculosis of the retro-peritoneal lymphatic glands is now in a stationary condition equivalent to recovery. A section of one of the tubes (which, of course, contained tuberculous detritus) is pictured in Fig. 2.

This case is worthy of note, because (1) the

pathologic nature of the tubal inflammation ; (2) the obstipation due to pressure, with recovery after removal of the diseased uterine appendages ; (3) the apparently permanent recovery of the very extensive tuberculous lymphadenitis after extirpation of the primary focus.

THE GENERAL PRINCIPLES UNDERLYING ALL GOOD METHODS OF INFANT-FEEDING.¹

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JUST as the highest aim of medical art should be directed to the province of preventive medicine, so the highest and most noble branch of preventive medicine should consist in the study of the best means and the most practical methods for starting young human beings on their life-race ; for preserving them from the perils that surround the early hours of existence ; for giving them strength and vigor to resist the attacks that, greater and more dangerous in inverse proportion to their age, must inevitably be made on their vitality. The preventive medicine of early life is preëminently the intelligent management of the nutriment that enables young human beings to breathe and grow and live. In fact, it is proper or improper nutriment that makes or mars the perfection of the coming race.

Infant-feeding, then, is the subject of all others that should interest and incite to research all who are working in the preventive medicine of early life. The subject is a great one, and is worthy of the attention of the greatest minds of the age ; worthy of the discussion of the leaders in medical thought of our Western Continent.

The responsibility of introducing such a serious question before such an assemblage of advanced medical thought is a grave one. It should be taken up carefully, and it must be dealt with broadly. For the present we must acknowledge, and in fact it is true, that in the status of infant-feeding, as it has existed until within the last few years the average human breast-fed infant is more likely to live, the other factors of the life-problem being equal, than the infant fed by any other method. But we must remember that the latest scientific work on this subject shows very clearly that it is not breast-milk as a whole that is preëminently good, but that there are definite, known qualities inherent in the different elements of the breast-milk that make it the best known food. It is our province as scientific workers in this most important branch of practical medicine year by year to elucidate and make use of these elements, once covered by a somewhat mysterious veil,

but now rapidly becoming laid bare by the search-light of patient and laborious investigation.

A great advance has been made in our knowledge as to what we are to copy from human breast-milk and what we must achieve in preparing a substitute. The very essence of this practical information that we have gradually acquired lies in the discovery that there is no one perfect nutriment for young human beings as a whole, but that it is the changes in the various elements of the breast-milk that satisfy the demands of the individual, and thus in time suit the many to such a degree that this protean food has erroneously come to be looked upon as one especial unchanging nutriment.

To thoroughly understand and successfully solve the feeding-problem of the early months of life a knowledge of the changes that from many causes take place in the mammary gland must be clearly kept in view. Again, the methods of modifying the milk in the human mammary gland, however limited in scope they may be, should be practically investigated and carefully adapted to the individual, according to its age and size and general physical condition. The mammary gland in its perfected state, uninfluenced by disease or nervous disturbance or by the improper living of its owner, is a beautifully adapted piece of mechanism constructed for the elaboration and secretion of an animal food. When in equilibrium it represents the highest type of a living machine adapted for a special purpose, both mechanically, chemically, physiologically, and economically. When from any cause this sensitive machinery is thrown out of equilibrium its product is at once changed, sometimes but slightly, but at other times to such an extent that the most disastrous consequences may follow when it is imbibed.

To state, then, concisely what I have already referred to in studying the form of nutriment suitable for the early months of life, we should manifestly be guided by what Nature has taught us throughout many ages.

The researches of science, especially in the subject of infant-feeding, are indeed wisely directed to learning to read the truths that Nature presents to us. Great progress has been made in reading these truths ; what we are at present endeavoring to do is to copy them.

The constituents of the nutriment that Nature has provided for the offspring of all mammals is essentially animal and never vegetable. Human beings, therefore, in the first twelve months of life are carnivora. It is, therefore, evident that an animal food entirely and always free from any vegetable constituents has been proved to be the nutriment on which the greatest number of human beings live and the least number die.

When good breast-milk, or rather one that is

¹ Address at the opening of the third session of the Section for Diseases of Children of the Pan-American Medical Congress at Washington, D. C., September, 1893.

fairly adapted to the individual infant, cannot be obtained, or, if obtained, cannot be regulated by modification, it is desirable to combine the elements that good breast-milk represents. For perfecting this, which may best be called substitute feeding, we must have a material that, while as closely as possible approaching the analyses of good breast-milk, is also easily accessible.

There is no mammal whose milk-production corresponds sufficiently to human milk to render a direct substitution safe or wise. If, therefore, milk is used, the problem demands for its solution a modified milk. The mammal whose product representing a carnivorous food has been proved from the earliest ages to best satisfy this demand is the cow. Certain breeds of cows are better adapted than others to produce milk that may be used for imitating human milk. For the use of this continent these breeds are the Durham, Ayrshire, Holstein-Friesian, American grades, and common natives.

The infant at the breast receives for its nutriment a fluid that is fresh, sterile, neutral, or faintly alkaline, has a temperature of from 98° to 100° F., and is furnished in an amount proportionate to its age and size. It is this fluid that we should copy in every possible detail when we undertake to prepare a substitute food. We should also consider as foreign matter, to be rigidly avoided, any element that we know is not to be found in the fluid that we are copying. Thus and thus only can we finally arrive at the proper solution of this intricate feeding-problem.

It would seem hardly necessary to suggest that the proper authority for establishing rules for substitute-feeding should emanate from the medical profession and not from non-medical capitalists. Yet, when we study the history of substitute feeding as it is presented all over the world, the part that the family physician plays, in comparison with the numberless patent and proprietary foods administered by the nurses, is a humiliating one, and one that should no longer be tolerated.

I would plead in the name of common humanity, as well as in the name of the intelligence and scientific reputation of our profession, that this representative body of American physicians should, in its endeavor to advance the general subject of infant-feeding, record itself as opposed to the use of patent or proprietary foods of every description. If we are abreast of the times, if we will but recognize and do justice to the work that has lately emanated from our own profession, we surely will not hesitate to boldly relegate to oblivion the statements of the food-proprietors, which on box and can, on bottle and on printed circular, attempt to stem the slow but inevitably progressing wave of scientific investigation.

It may be well to bear in mind that the attempts which in the past have been made to manufacture cheap foods have been markedly failures. We must first, regardless of expense, learn by modification to produce a perfected substitute food before we should endanger the success of our undertaking by allowing the mercantile side of the question to cripple us in the use of costly methods that we know to be the best. We should, in fact, remember that the nutriment which we are endeavoring to copy, far from being a cheap product, is on the contrary a very expensive one.

It is the knowledge of how to determine the best combinations of certain elements, and the best methods of accomplishing these combinations, that in the last year or two has especially claimed our attention and in which we have met with signal success.

There is no doubt but that one of the most important questions connected with the preparation of a substitute food is the proper control of the primal milk-supply. What that control shall be and how it shall absolutely be kept in the hands of those who by education and unselfish interest are most fitted to use their power wisely, is a matter worthy of your deepest thought.

The State control, as represented in Denmark, is indeed a brilliant example of what can be accomplished in this direction. Whether a similar method would prove to be the best for us to adopt has not as yet by any means been proved. The political clouds that continually obscure the highest scientific aspirations on this continent make it probable that, for the present at least, the primal milk-supply can best be perfected by individual enterprise and enthusiasm.

Finally, I would call your attention and consideration to the great capacity of different infantile digestions for assimilating a variety of proportions of the same nutritive elements; and hence, when introducing new methods for preparing a substitute food, the necessity for providing for many prescription-possibilities.

The latest researches on human breast-milk show that the albumin of the milk is not merely an exudation from the lymph-vessels supplying the mammary gland, but that it is actually modified in the breast.

We thus see that the mammary gland, besides being an elaborator and a store-house for infant nutriment, is also a modifier.

Following, therefore, Nature again closely, we learn that the precise modification of an absolutely pure and fresh primal milk-supply is the vital principle that at present should underlie our efforts to perfect substitute feeding, and I trust that those who will to-day take part in the discussion of this very

important subject will especially enlighten us on two matters of extreme interest :

First, what is the best method of obtaining a stable and perfect primal milk-supply?

Second, when this supply is obtained, how shall it best be modified?

A COMMON ETIOLOGY IN THE INFLAMMATORY DISEASES OF THE RESPIRATORY TRACT.

BY EDWIN J. KUH, M.D.,
OF CHICAGO, ILL.

WHILE the literature of recent years shows sporadic instances in which writers emphasize the infectious nature of those inflammatory troubles of the nose, throat, and chest commonly ascribed to "taking cold," I am aware that it has not become part and parcel of the medical consciousness that these diseases are "caught" in a different manner than tradition and our grandmothers would have us believe. Self-observation (see "Etiology and Cure of Asthma" in the *Journal of the American Medical Association*, January 29, 1887) and observation of others have taught me that all the muffling and clothing in the world would not prevent those susceptible to "colds" from "catching" them, if a protection of the body-surface were considered a sufficient prophylaxis against these affections. It cannot of course be doubted that when chronic affections of the respiratory tract *preexist*, exposure to rapid changes in temperature *per se* can aggravate existing conditions. But the primary affection, it seems, is always inhaled. Such circulatory changes as must occur in the respiratory tract when the vessels of the skin contract through "taking cold" are evidently a predisposing factor to infection; but that is probably all.

We all know how immune we become against "colds" in the severest climates and in spite of most careless exposure, where the air is pure; and we also recognize how susceptible we again become when we return to our city home.

With that cerebral squint, which O. W. Holmes has been pleased to dwell upon, we attempt to explain affections without exposure, with the words, "I must have taken cold."

The surgeon knows that pus implies infection, but the throat-specialist and the family doctor have not yet yielded to the inevitable and logical analogy in their fields of work. Wherever there is pus there has likely been infection; there is no reason why this proposition should not hold good for the mucous membranes as well as in other tissues. A typical acute coryza will, as a rule, run its course as unalterably as a typhoid fever. The same, generally speaking, may be claimed for the acute pharyngeal, laryngeal, and bronchial affections.

In private conversation it has been frequently retorted: "The cold is primary, the infection may follow as a complication." This would be an argument, if the infection did not constantly occur without exposure to cold. The history of the development of our knowledge in regard to pneumonia should silence that objection.

Although this article is not bolstered with bacteriologic tests, it seems a safe and necessary conclusion from the point of analogy and observation to assume that the inflammatory causes of coryza, amygdalitis, laryngitis, tracheitis, and bronchitis are inhaled. The omnipresence of organic dust, laden with bacteria, is the simplest, most constant and most forceful agent in the causation of those inflammations. No explanation for the appalling mortality from pneumonia in our large cities, frequently competing in numbers with that from tuberculosis, offers so perfect a solution as the theory of the dust-origin of that disease. The refuse from those same streets and alleys from which we turn in disgust is blown into our fashionable thoroughfares and inhaled. The utter disregard of these conditions makes our public buildings (court-houses, schools, theaters, railway stations, office-buildings, large retail stores, etc.) foci of infection. It is fairly gambling with a child's health and life to send it to school where provisions for pure air (in the sense of asepticity) are an unheard-of and at present unrealizable postulate.

The publication of the discovery of the tubercle-bacillus is entering upon its twelfth anniversary; and yet how slowly has this most positive knowledge in medicine stimulated us as a body of professional men to common and legislative prophylaxis. We are, it seems, too much interested in individuals and not enough in communities.

The remedy against dust-borne diseases of the respiratory organs would consist in pavements that do not easily pulverize, in honest street-cleaning, and in sufficient sprinkling, in rich and poor quarters, to prevent the raising of dust.

CLINICAL LECTURE.

INGROWING TOE-NAIL AND OTHER DISEASES OF THE NAILS.

Clinical Lecture delivered at Buffalo General Hospital.

BY ROSWELL PARK, A.M., M.D.,
PROFESSOR OF SURGERY, UNIVERSITY OF BUFFALO.

THIS patient, a young woman, suffers from well-marked ingrowing toe-nail in the great toe of each foot. The condition is almost always the result of bad habits, either past or present, in footwear. I have never seen a case in a person who has habitually gone barefoot, and the condition is practically unknown in those races that do not wear tight-fitting shoes. Moreover, ingrow-

ing nails are not found on the fingers. The ingrowing nail, therefore, is an indication that the feet have been abused and tortured. The majority of women's shoes, whether cheap or expensive, are too tight across the phalanges and exert too much pressure over the metatarsophalangeal joints. Women's shoes especially are tight at the toes and high-heeled, so that the weight of the body drives the feet forward at each step and the toes are crowded into the shape of a wedge. The soft parts are thus pressed against the edges of the nails; they become tender from the irritation, and, after a time, ulceration may result. The nail, as sharp as many a pocket-knife blade, presses constantly into the granulations of the irritable ulcer and causes exquisite pain, which may even make walking impossible. A working-man or woman cannot afford the time to pet the feet and give up to such an incapacity, and so this girl has entered the hospital for radical relief from this lesion, which is trivial in size but severe in its consequences.

In some cases all that is necessary is to correct the footwear. It has been suggested to pack underneath the edge of the nail a little cotton with a small spatula—ladies use that universal instrument, a hairpin, for this maneuver. The cotton protects the granulations from the edge of the nail, but it has to be changed twice a day, and in cases of any severity it seldom affords permanent relief. Another method is to burn down the granulations with caustics. This mitigates the irritability of the ulcer but requires repetition every few days, and it is possible that the continued stimulation of the ulcer with caustics might bring about a malignant degeneration. Again, it has been advised to scrape the nail very thin with a piece of glass, so that it may yield in the middle and not exert so much pressure on the side where the pain is produced. Of course, the use of local anesthetics, or even of hot water, will afford some relief; but after a person has wasted scores of hours in palliative measures and found that the result is only temporary, she becomes desperate and is willing to undergo almost anything for the sake of obtaining radical relief.

One of the radical operations was suggested by a charlatan, a corn-doctor, and it has proved efficacious in a great many instances. It consists in slicing off the affected side of the toe, passing a sharp bistoury alongside the bone, and removing considerable healthy tissue along with the ulcer. For the time being a larger ulcer results, but, as it heals, the cicatricial contraction draws the soft parts away from the nail. This method has much to recommend it, and, if one does not want to lose the toenail, it is the only one that is effective. But it is not so radical as the removal of the offending substance, the nail itself, and the second radical operation consists, first, in a longitudinal division of the nail; and, secondly, in the avulsion of the two halves with a suitable pair of forceps. It is this latter operation that will be followed in the present case. This patient illustrates a rarity in connection with ingrowing nail, for she has one on the third toe of the left foot as well as on both great toes. Usually, ingrowing nail is confined to the great toes.

Even so simple an operation must be performed properly, or it will not be successful. The nail grows from the epiblastic layer of the developing embryo, and is simply epithelium that has become cornified, like the horns and hoofs of animals. We must remove the cells

from which it is regenerated or it will be, in some measure, reproduced. It is not, therefore, sufficient to pull the nail out; we must go down to the matrix and clean it out.

The nail is split by passing a knife-blade or one blade of a pair of scissors under it and splitting it down the middle. It is separated from the matrix a little way on each side of the split, each half seized with a strong pair of forceps and torn out by a rolling motion of the forceps. In the present instance, there being three nails to remove, the patient has been anesthetized with ether, but the operation, being so short, although painful, does not usually require a general anesthetic and can be done under cocaine; or, if a dentist's office is near by, you can take the patient there and give nitrous oxid. After the avulsion of the nail, the granulating surface of the ulcer is cauterized and the matrix is scraped with a sharp spoon, or touched with nitric acid, to remove all imperceptible epithelial elements from which the nail might grow. The wounds are dressed antiseptically in the usual manner.

There are other diseases of the nails which may involve any phalanges of either hand or foot. There is a condition of unusual growth, which may be called hypertrophy of the nail. This does not apply to a nail that has merely grown to an unusual length, for that is due to its normal growth and would occur in every case if it were not cut off or worn off. The hypertrophied nail is thick and flares out in various irregular shapes. This you will see more frequently in elderly people than in young persons. Sometimes the nail bunches upward into a pyramid a centimeter thick in the middle. Ordinarily, hypertrophy of the nails occurs to moderate extent in old people, and is not serious. When, however, the nail is covered by a shoe, it may catch in the lining and be so constantly disturbed in its matrix as to produce an irritable ulcer beneath. It is then necessary to remove it in order to effect a cure. Sometimes the nail is so loose as to require only to be picked off.

In certain nervous diseases, irregular growth of the nails is common. You may remember the so-called ossified man who was on exhibition in this city and elsewhere. His nails were long and had grown in loose spirals, but they were also irregular in thickness and presented numerous ridges.

There are also inflammatory changes about the nails known collectively as onychia. This condition is due to irritation from chemicals, to the specific poison of syphilis or tuberculosis, or to the habit of biting and tearing the nails. Children are especially prone to this habit and may keep up chronic ulcers about the matrices. It is not strange that such an ulcer may by infection secondarily become tuberculous or syphilitic. Tuberculous children, by auto-inoculation, develop what has been called "scrofulous" onychia. Syphilitic onychia occurs either in the tertiary stage of the acquired disease or in hereditary syphilis. In children, onychia is usually attended with more or less clubbing and enlargement of the fingers on account of hyperplasia of the fibrous tissues. We find a mild form of onychia in many people whose fingers are constantly in dye-stuffs, brine or similar irritating chemical solutions.

Paronychia is mentioned in text-books under the same caption as onychia. It consists in a cellulitis of the

fingers and usually of the terminal phalanges. Inflammation of the cellular tissue about the tendon sheaths is part of the same process; it may spread to the periosteum, and then it amounts practically to a felon.

The specific forms of these lesions call for specific treatment, both local and constitutional. The other forms require, first, removal of the cause, then anti-septic and palliative applications; or, at times, free incision down to the bone and perhaps the employment of a small curet or strong caustics, after which the treatment becomes very simple.

CLINICAL MEMORANDA.

THREE CASES OF LEFT-SIDED APPENDICITIS.

BY GEORGE RYERSON FOWLER, M.D.,
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THE usual location of the caput cecum coli is in the right iliac region, lying upon the psoas magnus muscle, its most dependent point or apex projecting just beyond the inner edge of that muscle. This corresponds, externally, to a point slightly to the inner side of the middle of Poupart's ligament.

Occasionally the cecum will be found external to the psoas, and lying upon the iliocostalis muscle in the right iliac fossa; or the bulk of the caput may lie upon the latter muscle, while the apex rests upon the psoas. Again, the cecum may hang over the pelvic brim, entirely clear of these structures, or be lodged within the cavity of the true pelvis. After the second month of intra-uterine life the cecum gradually recedes from the neighborhood of the umbilicus, which is its original position, and finally becomes fixed in the right iliac region. To speak of the cecum as occupying the right iliac fossa is scarcely correct in the majority of instances.

Should the fetal type persist, there will be non-descent of the cecum. This will result in a corresponding abnormal situation of the appendix vermiciformis ceci, the latter even lying to the left of the median line. In a dissection of a sixteen-year-old boy, Lenander observed the cecum, together with an appendix fifteen cm. long, lying against the spleen in the left hypochondriac region.¹

The following three cases of abnormally placed, or non-descent of the cecum, with corresponding mal-position of the appendix, have come under my observation. In all three appendicitis occurred, and was not recognized, because of the presence of the abnormality. They are among one hundred and forty cases of appendicitis upon which I have operated during the time covered by these observations.

CASE I.—M. F. N., thirty-five years of age, was suddenly attacked, on the night of December 12, 1890, with colicky pains, which had subsided upon the administration of some domestic remedy that contained opium. The pains were generally distributed over the abdominal region, and were finally referred particularly to the epigastrium. Nausea and vomiting had followed the onset of the pain. The woman had recently lost a friend with appendicitis, and had been informed that if a surgeon had been summoned and an operation performed, her life might have been saved.

The patient's pulse was 80, and the temperature 100° F. She expressed herself as feeling much better than before the administration of the opiate. There was a somewhat diffused and not very acute tenderness at the outer border of the *left* rectus muscle, on a line with the umbilicus. The case was regarded as one of intestinal colic, and treated with a small dose of morphin hypodermatically. I left her with instructions to summon a physician in case of a recurrence of the pain.

Forty-eight hours subsequently I was summoned in great haste, and found the patient in profound collapse. With the exception of pain in the *left* hypochondrium, she had remained quite comfortable until a few hours before, when, in rising to urinate, a sudden accession of pain to the *left* of the umbilicus had occurred, followed very shortly afterward by intense pains, which had rapidly become general. Her pulse became very rapid and weak, and she died, without rallying, seven hours after the relapse of the symptoms.

The autopsy, conducted by Prof. Van Cott, revealed a perforated left-sided appendix. The caput coli was found, attached by a very short meso-colon lying almost directly upon the promontory of the sacrum, with the appendix curled upward and outward beneath the *left* rectus muscle. The perforation occupied a space one inch long, about midway between its tip and its base of attachment to the cecum. The appendix was three inches in length. Only slight adhesions were present at the site of the rupture, the edges of the latter presenting a ragged appearance. The remainder of the appendix was swollen, infiltrated, and enlarged. No foreign body was present.

Considerable sero-purulent fluid, and some fecal matter, occupied the peritoneal cavity. Septic peritonitis was present.

CASE II.—A. M. M., nineteen years of age, was admitted to St. Mary's Hospital on June 29, 1891, with the following history: Seven days before admission he suddenly developed severe abdominal pain, followed by vomiting. The pain was at no time localized. A tumor had been made out by the family physician, beneath the *left* rectus muscle, two days prior to admission. This was thought to be due to fecal impaction, and cathartics were administered. The tumor disappeared, although the bowels refused to respond to the cathartic medicine which had been administered. The pain, however became much more violent, and the patient became greatly prostrated.

He was prepared for operation immediately upon his admission to the hospital. The median abdominal incision was made. Upon reaching the peritoneal cavity a large amount of sero-purulent fluid was found free in the peritoneal cavity, besides three separate collections of the same sero-purulent matter, partly walled off by adhesions. A violent septic peritonitis was under way. The caput coli lay immediately behind the umbilicus, and the cecum was turned to the left, the appendix lying behind the *left* rectus muscle, just below the level of the umbilicus. The patient's condition did not admit of an attempt to remove the appendix.

Death took place shortly following the operation, from shock and the pre-existing septic peritonitis. The autopsy showed a gangrenous appendix, which had perforated, in addition to the conditions already described. No foreign body was found.

¹ Sammlung klinischer Vorträge, August, 1893, No. 75.

CASE III.—On September 12, 1892, I was requested by Dr. J. H. Burge to see J. B., a male, sixteen years old. He had been absent from home, without his parents' consent, for more than a week, and had been sleeping in a milkman's stable. Upon the day preceding my visit he had come home, suffering from severe abdominal pain, which had suddenly set in upon the previous day. Nausea and vomiting had followed the pain. The following condition was noted upon the occasion of my visit: The abdomen was considerably distended, with fulness rather more marked upon the left side. There was tenderness within an area of about three and a half inches in diameter, beneath the left rectus muscle, commencing at the umbilicus and extending directly downward. Marked dulness on percussion was present in the left iliac region and flank. Sensibility was particularly acute in the left lumbar region, and extending to the lower border of the ribs posteriorly. The temperature was 104° F., pulse 124.

A diagnosis of left-sided appendicitis was made, and the patient was removed to the Methodist Episcopal Hospital for operation. On the afternoon of the same day a median celiotomy was performed. Upon opening the abdominal cavity I encountered a large amount of seropurulent fluid free in the peritoneum. A large abscess-cavity was found to the left of the median line, occupying the locality of the dulness referred to. After thoroughly packing the surroundings with sterilized gauze, thus isolating the general peritoneal cavity, the pus was evacuated. The finger-tip could be passed through an opening a half-inch in diameter, which led directly to the layer of connective tissue behind the peritoneum. The latter appeared to be dissected up in all directions. About fourteen ounces of pus were obtained from the two cavities. The walls of the abdominal portion of the abscess were made up of masses of adhesions, which were not attached anteriorly. The caput coli and the cecum were displaced from their normal position in the right iliac region, being curved to the left and upward toward the umbilicus, and lost in the mass of adhesions which made up the abscess walls.

As thorough a disinfection of the pus-cavities as possible was made, the communication between the two being enlarged to facilitate irrigation and packing. Both cavities were tamponed loosely with sterilized zinc oxide gauze, the ends of which were led out of the abdominal opening. The abdominal wound was only partially sutured.

The patient rallied from the operation, but sank and died on the third day from a continuance of the septic conditions which existed prior to the operation.

The autopsy revealed a gangrenous and perforated appendix, with its caput coli situated to the left of the median line, and, immediately beneath the mass of adhesions which had also formed, the wall of the large abscess-cavity. This communicated, in its turn, with a cavity in the post-peritoneal connective tissue, extending in an upward direction for about eight inches above the point of communication with the first. The ascending colon and the cecum were situated to the left of the median line, and on a level with the umbilicus.

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TWO COMPLICATED LABORS; DELIVERIES BY VERSION AND BY CESAREAN SECTION; RECOVERIES.

BY GUY HINSDALE, M.D.,

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CASE I. *Arm and shoulder presentation; version.*—The patient's fifth pregnancy expired April 20, 1881. The fourth pregnancy had ended in a breech-presentation; the previous labors had been normal. On being called to this patient an examination was made at once and the right arm and fundi were found presenting, the waters having previously ruptured. Not succeeding in restoring the arm, I called on Dr. E. H. Bell, who also was unable to restore the arm but succeeded in performing podalic version. At first the right foot was grasped and made fast by a fillet. All endeavors to grasp the left leg were unsuccessful. Traction was made, and with great difficulty the hips and left leg were brought down. After the body had been born, the head still remained transverse, and the arms extended at either side of the head. No efforts on the part of either of us succeeded in moving the child. The arms were finally forcibly brought down, sustaining a fracture on the left side of the acromion, and on the right side of the humerus at the middle. Traction was then made, and the head rotating antero-posteriorly, the child was delivered, but was not living, owing to pressure on the cord. The patient made a good recovery.

CASE II. *Labor obstructed by uterine fibroids; Cesarean section (Porro operation) by Dr. Hirst; recovery.*—The patient was a primipara, aged twenty-six, of spare habit. Three weeks before delivery she apparently fell into labor, but after several hours the pains subsided. On October 24, 1893, I was called and found regular labor-pains present, but the os was high up and pointing far over to the left side. The fetal heart was heard most distinctly on the right side and below the umbilicus. Owing to the irregular shape of the uterus, and the oblique displacement of the os, twin pregnancy was at first suspected, but only one fetal heart-beat could be heard. Ineffectual pains continued for the next thirty-six hours, when I determined to etherize the patient and ascertain the cause of the difficulty. As soon as she was under ether it was evident that a large fibroid attached to the neck of the uterus was interfering with dilatation of the cervix and the descent of the head. On passing the forefinger through the os, a brow-presentation was recognized, the nose, chin, and eyes being distinctly felt. Simpson's forceps and the axis-traction forceps were applied to the head, but delivery was impossible, owing to the head lodging against the symphysis pubis. Efforts were made by Dr. F. S. Pearce and Dr. J. B. H. Gittings, whose assistance I secured, to deliver by version, but they were also unsuccessful. I then decided to call in Prof. Barton C. Hirst to perform Cesarean section. We deemed it best to remove the patient to the Hospital of the University of Pennsylvania, three squares distant. After giving her three hours' rest, Dr. Hirst operated in the presence of the class.

The patient having been prepared in the usual manner, the abdominal cavity was opened with scissors, the uterus lifted up and grasped by an assistant who held it

tightly by the neck. The placenta lying posteriorly, the uterus was opened by scissors in the middle line and the child extracted, the cord severed, and vigorous efforts were made by a third assistant to resuscitate the child. Although fetal heart-sounds were heard a short time before operation, the child did not live.

The neck of the uterus was then transfixated in two directions, and a strong rubber ligature applied. A large pedunculated fibroid was found attached to the uterine neck, lying in the pelvis, and another near the fundus. These were nearly as large as the fetal head. The lower tumor was extricated with considerable difficulty. The uterus and attached fibroids were then severed above the transfixing pins.

The stump was treated by the extra-peritoneal method. The patient did well, the temperature reaching normal in less than one week, and she is now nearly ready to leave the hospital.

UNIQUE CASE OF TRAUMATIC TETANUS, WITH GENERALIZATION AND RECOVERY.¹

BY J. G. ORTON, M.D.,
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IN reporting the following case of tetanus, I present it not only as a marked illustration of the pathologic reflex state of the disease, having a peripheral irritation for its immediate point of origin, an exaggerated functional activity of the spinal centers for its condition, and muscular contractions for its effects; but also as a remarkable instance of the power of endurance of the human body under long-continued muscular contortions, accompanied by painful paroxysms of spasm involving such important parts as the diaphragm and the muscles of the larynx, and yet followed by complete recovery.

The patient, I. D., nine years of age, of slight build, light-brown hair, blue eyes, and fair complexion, received a contused wound of the left forefinger, at the distal end, which at the time was not thought of sufficiently serious character to call for surgical care.

On the fifth day after the accident the boy was seized with symptoms of trismus, at which time I was called to attend him. The jaws could only be partially opened. The injured finger presented the usual appearance of a neglected contused wound, unhealthy pus surrounding a denuded and dead portion of bone. I removed the diseased portions, giving the parts suitable antiseptic dressing, and the wound rapidly took on a healthy character and in due time fully healed.

On the second day after seeing the boy the muscles of the face became involved, giving the characteristic expression of the *risus sardonicus*. On the third day an invasion of the muscles of the pharynx took place, exhibiting the dysphagic form of tetanus. On the fourth day the extensors of the neck contracted, the lower limbs became stiff, adducted, and extended. On the fifth day, unyielding contractions of the muscles of both arms and fingers had supervened, and on the sixth day generalization was fully established. During a painful paroxysmal spasm involving the whole body, opisthotonus was produced to a remarkable degree, and remained for hours before any relaxation occurred. Besides these continued

and powerful contractions of the muscles, painful paroxysms frequently supervened under the slightest external excitation, such as a jar of the bed or walking in the room. Complete intermission never occurred. The generalization was so thorough at times as to involve the integrity of the diaphragm and the muscles of the larynx, and the patient apparently ceased to breathe, becoming as one asphyxiated; finally at one time during these paroxysms there was a simulation of the act of dying, the child becoming pulseless, pale, and ghastly in the extreme. Out of this critical condition he would gradually rally, only to suffer repetitions for many days in succession. The spasms of the jaws and pharynx were for a long time so uninterrupted that he was unable to swallow even liquids, and became extremely emaciated.

The deviation of temperature did not assume any definite cycle, but ranged from 101° to 105°, the pulse from 110 to 150. No evening increase was observed, but the pulse kept quite a close parallel to that of the temperature. During the exacerbations of temperature delirium was always present; otherwise intelligence remained perfect. After generalization became fully established on the sixth day after the first symptoms of tetanus appeared, there was not a moment for a period of forty-five days in which complete relaxation of the contracted muscles occurred. When resolution commenced to take place, it was in the order in which the several parts of the body had become involved by the disease, and assured convalescence was established sixty days from the time of the accident to the finger. Complete recovery followed.

As to the line of treatment pursued in this unique case, I shall only briefly allude to it, for I am far from sanguine that the various measures resorted to, save one, had any special controlling influence over the disease. The amputation of the diseased bone and subsequent rapid healing of the parts accomplished all that could be desired in that direction, but failed to abate the course or severity of the contractions. Ergot, chloral, quinin, Indian hemp, etc., were each given a fair trial, with but, only temporary if any, effects. The excessive contortions of the body, opisthotonus, and the powerful contractions of the upper extremities were only mitigated or controlled by the application of the ice-bag along the cervical region of the spine. By this means, and this alone, was I able to allay the severity of the contractions, which many times seemed about to terminate the case in death by asphyxia during an attack of the dysphagic form of the disease. For a period of twenty days this application was frequently resorted to, and always gave quite prompt relief from impending danger to life; in fact, it was the only remedy that afforded any satisfaction in the treatment of this case.

MEDICAL PROGRESS.

A Large Cerebral Tumor.—CONROY (*New York Medical Journal*, 1893, vol. lviii, No. 19, p. 537) reports a remarkable case of cerebral tumor, the neoplasm almost completely displacing the entire left hemisphere and occasioning relatively insignificant symptoms. The case occurred in a boy who, at the age of fourteen years, was knocked down and kicked in the head by a horse. He was rendered unconscious for a short time, but afterward apparently recovered completely. After a little while,

¹ Read before the Tenth Annual Session of the New York State Medical Association, October, 1893.

however, it was observed that hearing was becoming impaired, and a year after the accident paralysis of the right arm and leg appeared. Subsequently speech became affected and the eyesight began to fail. The mother thought that for a year the head had been increasing in size. It was for the defect of vision, which had been observed for two years, that the patient, then twenty years old, came under observation. He was well and symmetrically developed and well nourished. The facial expression was rather dull; the tongue was protruded to the left. Sensation was impaired upon the entire right side of the body, in greatest degree in the leg. Motor power was almost completely lost in the right lower extremity, while the upper extremity was much weaker than the left. The left pupil was slightly larger than the right, though neither reacted to light or in accommodation. There was marked neuro-retinitis in both eyes, though in a more advanced stage in the left. Articulation was greatly impaired. In the situation of the left parietal foramen there was a depression in the skull, but no cicatrix. Pressure at this point induced pain. The child ate enormously and slept well. There had been several convulsive seizures, with loss of consciousness, but without frothing at the mouth or biting of the tongue. A diagnosis of cerebral tumor was made, but the patient was lost from observation for a time, when the question of operation was raised. The optic nerves had now become distinctly atrophied and vision was almost entirely lost. An operation was undertaken, an area of about two square inches of bone being removed in the neighborhood of the depression, which proved to be an opening into the bone. On incising the dark, bulging dura, a hard, lobulated mass, looking like brain-tissue, presented. This appeared to be so extensive that its removal was not attempted. A small piece, however, was taken for histologic examination and the wound was closed antiseptically. For twenty-four hours after the operation the patient appeared to be doing well, but on the second day the heart's action began to fail and death ensued painlessly forty-eight hours after the operation. Upon removal of the calvarium the left half of the cavity seemed to be filled with the tumor, the surface of which was lobulated and fissured. It was invested with a closely-adherent, tough, fibrous membrane, which bound it to the falx cerebri. The left hemisphere occupied the base of the skull beneath the tumor, by which it was flattened and compressed to the size and shape of the palm of a man's hand. Two additional smaller tumors were found on either side of the foramen magnum, attached to the dura of the medulla oblongata. The right cerebral hemisphere was somewhat pressed upon, but otherwise appeared normal. The main tumor weighed twenty-seven ounces. Its long diameter was eight inches, its transverse diameter three inches and a half, its vertical diameter four inches. Of the smaller tumors, the one was of the size of a plum; the other was smaller. All three tumors were of firm consistency and seemed homogeneous throughout. Upon section, they appeared to be constituted of pure fibrous tissue, with here and there a small area of fatty degeneration.

The Symptomatology of Exophthalmic Goiter.—At a recent meeting of the Medical Society of London, MAUDE

(*British Medical Journal*, No. 1712, p. 892) called attention to some not generally recognized manifestations of exophthalmic goiter. He insisted on the constancy of some degree of thyroid enlargement, though possibly but slight and transitory. Among fifty-five cases of enlarged thyroid gland observed in a population of 3000, there were twelve more or less well-marked cases of exophthalmic goiter. A case was reported of exophthalmic goiter in the child of a myxedematous mother. Among the psychoses observed in the course of exophthalmic goiter, in addition to the usual irritability of temper, are (1) an over-sensitive notion of duty, only removed in degree from religious melancholia, with delusion of sin; (2) incoherence of idea (Russell Reynolds' "chorea of ideas"), with, in one case, ambulatory epilepsy, vertigo, tinnitus, and throbbing in the head. The tremor present is more marked in the flexors of the arms, the interossei escaping. It is almost universal and resembles the tremor induced in animals by removal of the thyroid gland; it is more uniform than the tremor of hysteria. Eclamptic convulsions may occur, having a direct relation to and being perhaps determined by, the disturbed cardiac action. Clonic spasm of the face and chorea are common concomitants. Among other bulbar symptoms is a difficulty in swallowing, resembling that encountered in myxedema, with interference with speech, like that observed in disseminated sclerosis. Facial paralysis is common and most patients display some feebleness of the seventh nerve. The ocular symptoms are believed to be due to the paresis of the temporal division of the temporo-facial nerve. In addition to general muscular weakness there is often paraplegia of one of two types: (1) One form in which the paraplegia is only an accentuation of the chronic muscular weakness under the stress of diarrhea, cardiac failure, or other causes; (2) the form in which the paraplegia is sudden in onset and akin to the so-called hysterical or functional paralysis. Astasia-abasia is frequently encountered, but possesses no special significance. There are many symptoms that point to the existence of a peripheral neuritis, and the symptoms of exophthalmic goiter are believed to be consistent with the hypothesis of a general nerve-poisoning, falling principally on the medulla. The constant presence of goiter, the connection with myxedema, and the results of operations upon the thyroid gland are thought to justify the suspicion that the thyroid gland is the source of the mischief.

A Sign of Gastric Carcinoma.—BOAS (*Münchener med. Wochenschr.*, 1893, No. 43, p. 805) contends that the presence of lactic acid in the gastric contents, particularly in conjunction with a permanent absence of hydrochloric acid, and with stagnation of the gastric contents, without demonstrable dilatation, is conclusive evidence of the existence of gastric carcinoma. If a solution of lactic acid be treated with an oxidizing agent and be gently heated acetaldehyde and formic acid are set free, and the presence of the former may be demonstrated by the production of a reddish-yellow or red color in the presence of a solution of potassium iodid and mercuric chlorid. For both qualitative and quantitative purposes small quantities of concentrated sulfuric acid and manganese are added to the solution to be tested, heat applied,

and the vapor conducted into an alkaline solution of potassium iodid. If lactic acid be present a precipitate of iodoform is thrown down. As it has been found that most bread contains lactic acid, the trial-meal in these tests should consist only of flour soup without the addition of salt.

Osteomalacia in a Male.—At a recent meeting of the Vienna Medical Club, WEISSMAYER (*Internationale klinische Rundschau*, 1893, No. 43, p. 1625) reported the case of a shoemaker, fifty-two years old, previously well, who was seized, three years before coming under observation, with sharp pain in both thighs which would not yield to treatment. The pain progressively ascended to the clavicles and was so distressing as to keep the patient in bed. All of the bones were painful upon manipulation. Carcinoma, lymphadenitis, and myeloma were excluded, and a diagnosis of osteomalacia was made. Accordingly, the administration of phosphorus was begun, at first in daily doses of gr. $\frac{1}{2}$; later, in doses of gr. $\frac{1}{2}$ and gr. $\frac{1}{2}$. The pains soon subsided, and in the course of a short time the patient was able to be up and about.

THERAPEUTIC NOTES.

For Ingrowing Nail.—To expedite the process of healing, following the performance of the radical operation for ingrowing toe-nail, HÜBSCHER (*Corr.-bl. f. Schw. Aerzte*, 1893, No. 20, p. 695) recommends the transplantation of healthy skin to the fresh wound. His course of procedure is as follows: Cocain is injected into the toe to be operated on and also upon the antero-external aspect of the corresponding thigh; then a compressing bandage is applied at the base of the toe, the nail divided, its two halves removed, together with the lateral and posterior portions of the ungual fold; the nasal matrix freshened; the bandage removed; hemorrhage controlled, and a layer of skin transplanted from the thigh. Finally, a dressing is applied and permitted to remain for three or four days. The wound practically heals by first intention. As a precaution an iodoform-collodion dressing should be continued for a few days longer.

Poisoning by Cardol.—WHITE (*Boston Medical and Surgical Journal*, vol. cxxix, No. 18, p. 440) has reported the case of a man employed in a vanilla commission establishment, who presented himself with a puffy face and various forms of inflammatory lesions, papules, general redness, and a few vesicles upon one wrist and forearm. It is not believed that the symptoms resulted from intoxication from vanilla, but with an oil obtained from the rind of the cashew nut, called cardol, and employed for the purpose of giving a black color to vanilla beans of inferior quality.

Ipecac for Hematemesis.—BURLAN (*Lancet*, No. 3569, p. 923) has obtained satisfactory results from the administration of large doses of ipecacuanha for the relief of hematemesis, a dram being given in a bolus with glycerin. The utility of the drug is believed to be dependent partly upon its stimulating action upon the mucous membrane of the stomach and intestines, as a result of which an increased secretion of mucus is in-

duced, thus diverting the blood from its dangerous work, and partly upon its sedative action upon the pulse and heart-beat.

For Sciatica.—

R.—Pulv. opii	gr. xij.
Pulv. ipecac. ver.	gr. xij.
Sodii salicylat.	3jss.
Ext. cascarae liq.	q. s.—M.
Ft. pil. no. xij.	

S.—One or two from three to five times a day.

The Asclepiad, 2d quarter, 1893.

The Treatment of Hydrocele.—NEUMANN (*Fortschritte der Medizin*, 1893, No. 20, p. 818) has reported the successful treatment of six consecutive cases of hydrocele by the introduction of a trocar, which was fastened and permitted to remain *in situ* for two days. Thereafter local applications of a lotion of lead-water were made. The entire course of treatment covered an average period of from seven to nine days.

For Diphtheria.—

(BIANCHINI.)

R.—Resorcin.	2.
Acid. salicylic.	3.
Glycerin. neutral.	10.
Alcohol. absolut.	20.—M.

S.—Apply with a brush or swab to the affected surface.

La Semaine Médicale, No. 60.

For the Treatment of Uterine Myomata. ROBINSON (*New York Medical Journal*, 1893, vol. lviii, No. 19, p. 536) recommends ligating the ovarian artery, with or without tubal and ovarian structure, and ligating the uterine artery, as it courses along the sides of the body of the uterus for a half or two-thirds of its length from the fundus to the cervix.

For Burns.—OSTHOFF (*Deutsche medicin. Wochenschr.*, 1893, No. 38, p. 931) recommends the application of bismuth subnitrate made up with hot water into a mass having the consistency of plaster-of-Paris, and applied to the affected surface by means of a brush. In uncomplicated cases no other dressing will be required.

For the Removal of Warts. SYMPSON (*Quarterly Medical Journal*, vol. ii, part 1, p. 57) warmly recommends the administration of small doses of arsenic. The desired result is still more speedily brought about if, with the administration of arsenic, the topical application of a salicylic colloid is conjoined.

Calcium Chlorid as a Hemostatic.—Upon the basis of personal experience, SAUNDBY (*Birmingham Medical Review*, No. 182, p. 214) recommends the employment of small doses (not exceeding six grains) of calcium chlorid every four hours in the treatment of hemorrhage or the hemorrhagic diathesis.

As a Genito-urinary Antiseptic. LYDSTON (*Journal of Cutaneous and Genito-urinary Diseases*, No. 134, p. 451) recommends oil of eucalyptus in doses of ten minimis three times a day or oftener.

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SATURDAY, NOVEMBER 25, 1893.

FURTHER COMMENTS ON FOOT-BALL.

THE MEDICAL NEWS last week gave a few reasons why the game of foot-ball is running to dangerous extremes, and as at present played is of most pernicious influence upon the morals of the players and of the community, subversive of the true interests of education and of genuine athletics. Our article has been reproduced in a number of lay-journals, and has called out comments, congratulations, and criticisms from private correspondents, and from journalists. There is an almost universal agreement as to the diagnosis of the disease, and nearly a universal agreement as to the prognosis and treatment. The journals that habitually compromise between conscience and salability, are, to be sure, hedgers in this matter, as in all other things; those that see clearly and speak bravely in other things see clearly and speak bravely of the foot-ball evil.

So long as the present rules and practices obtain, the first effect of public discussion will be to still further conceal the seamy side of disreputable facts and customs, and to keep the public hoodwinked as to the injuries to players, much as the railroads hide from the public the results and even the existence of "smash-ups." Another result, and a good one, is suggested by the fact that some of the games of the past few days have been more "open" games, with less "bunching" and less manifest brutality,

although one college-boy has been killed in a "great battle" at a Michigan college, in which much bad blood was raised and spilled.

THE NEWS will gladly work for evolution and emendation rather than revolution and extinction, if it can be shown, as some kind critics aver, that the game may be made useful to the health, mental and physical, of the players and of the community, and serviceable to the cause of education. But of this possibility we have most profound doubts.

If improvement and correction of the present evils of the game are to be hoped for, they can only come from the most resolute agreement and action on the part of college-officers. But college-officers are too often controlled by the same motives that govern rivals in commercial life. There is a danger that they are coming to think too much of attracting new students rather than of raising the standards of education and culture of the students they have. Jealousy of other institutions in the minds of teacher and student is undeniably more active than it should be.

Harper's Weekly—a journal most clear-minded and clean-handed as to social questions—calls college-authorities to a stinging and sharp account for shirking their most manifest duty. It says to the college professors:

"There loom up, side by side with the growth of the game and the increasing interest, two evils which threaten not simply to dampen the enthusiasm but to entirely put a stop to the sport. These evils are brutal tactics on the part of the players, and drunkenness on the part of their supporters.

"Some day in the near future, when a player falls never to get up again, because his opponent in the heat of the contest has struck a little harder than he intended, you will seize the opportunity to say 'No more foot-ball.' But the responsibility of that man's death will rest upon you."

The *New York Evening Post*, the journal *par excellence* of educated gentlemen, quotes entire and commends warmly the editorial of THE NEWS, and says: "College foot-ball is fast becoming a national calamity." It shows that at Harvard, where the game stands highest, at most only 100 out of 3000 students practice the game, and that about 25 "gladiators" monopolize its "beneficent effects." It further points out a manifest truth that the influence of the game is clearly to undo one of the sublimest and hardest-won products of civilization, respect for the human body as such. "As a spectacle, the game is only one degree removed from the prize-fight, and nobody participates in it or

looks on it without finding his dislike of prize-fights diminished and his respect for prize-fighters increased."

The *New York Herald* publishes the detailed accounts of twenty-six deaths occurring so far in England during this season, directly attributable to foot-ball injuries. During the season of 1891-2 the number of deaths was twenty-two, and during 1890-1 there were twenty-three deaths. During the present season in this country there have been four, probably five, deaths. The list of broken bones and other severe injuries would be simply impossible of computation and of appalling length. If this does not settle the question of "brutality," what, then, is further needed? No wonder the accident insurance companies are refusing risks of the players.

The hopelessness of remedying the brutality lies in the universally admitted and deplored fact that no human umpire is physically capable of seeing the "slugging" that may take place in such a terrific jumble, and that it is asking an impossibility of excited and passionate boys to expect them not to "slug" when they will thereby win the game and make themselves heroes.

If reform is possible, it must follow:

1. That personal violence and injury must be stopped.¹
2. That no public matches must be allowed during term-time.²
3. That, the first duty and function of a college being that of mental training, this during no day dare be subordinated to the rage for games or athletics.³

¹ Col. Ernst, Superintendent of the West Point Military Academy, says in his report in reference to the injuries received by cadets in the foot-ball field:

"It is doubtful, in my opinion, if the benefits derived from playing this game, which I am free to acknowledge are very considerable in some directions, are commensurate with the risks it entails to life and limb, which, according to statistics, are much greater than commonly supposed."

² The entire month of November is almost entirely lost so far as study is concerned, and other months are encroached upon.

³ More than two hours every day are now spent in signal practice. In the forenoon, the hour from 10 to 11 is passed on the floor of the big exercising hall of the gymnasium. The doors are locked and the eleven lines up against imaginary opponents. The coaches criticise the way the plays are put into effect, and the whole series of signals is gone through with again and again.

The hard practice game takes from 2 until 4 in the afternoon, and it is 4.30 before the men are all sponged, rubbed down with alcohol by professional rubbers, and dressed. Supper at the training tables comes at 6 o'clock, and from 7 to 8 comes signal

4. The physical development of all students is to be encouraged, not the game-winning powers of a few.¹

5. An end must be made of rowdyism, drunkenness and gambling, in connection with, or as a result of the games.²

Can these things be assured? If so we shall refrain from further criticism.

TWO KINDS OF EXPERTS.

THE expert in insanity is a diagnostician—nothing more or less. His function in court, as in hospital, is to make a scientific diagnosis of a case. This function cannot be enlarged without detriment to him, or curtailed without detriment to justice. His claim to respect and credence is in exact proportion to his display of knowledge and honesty. Above all things he is a professional man, with professional traditions to guide and to support him. His science is one of observation and induction—as much so on the witness-stand as in the dead-house. He is supposed to be the associate of scientists, and to display in his own career the mental processes and discipline that are the results only of conscientious application to the attainment of an ideal.

This ideal of the expert is high and difficult for vulgar men to attain. It is above the level of the zeal of the partisan, the rage for publicity, and the greed for lucre. The duty of the expert, when he gives evidence in a trial that may deprive the prisoner of life or of liberty and reputation, is in the line of the highest public office. The judge upon the bench has not a more trying duty or a more strictly intellectual and conscientious function. RHADAMANTHUS may preside, but the symbols of law are not necessarily the symbols of knowledge.

practice again behind sealed doors in the gymnasium. This ends the day's work for the weary band. At 10 o'clock the force of rubbers starts out, and every player is visited at his room, where, just before he tumbles into bed he is thoroughly rubbed and liniment applied to bruises and sprains.

This is the daily life of a university foot-ball man through November. He has the rest of the year in which to catch up with his studies. He does not get very deep into learning while his hair is long and the canvas jacket the sign of his calling.—*Ralph D. Paine in the New York World.*

See another account in the *New York Sun*, November 19th.

¹ Remark the monopoly of the gymnasium and of the field by the professional team.

² Note the regulations of the New York police and of the Yale College Faculty as regards the conduct and "celebration" of students after the Thanksgiving game.

These are preëminently in the keeping of the scientist.

This ideal of the expert is nourished first and last upon the Baconian philosophy—it is founded upon the conception of pure knowledge, based upon observation and induction. It inspires a man to ignore rumor, to despise gossip, to curse mendacity and ignorance, to rebuke presumption, and it does not permit him to associate with newspaper reporters. Above all it enables him to keep the faith, to recognize no responsibility but to truth, and no bond of fellowship outside of his own profession. Thus he has the methods of science, but he has also the reticence of priests. He does not pause upon the curbstone for whispered confidences with the public, nor does he pronounce opinions upon the cases of men whom he has never seen. This is one kind of expert.

But, unfortunately, there is another kind of expert, and occasionally he is in evidence. He gives long interviews in the newspapers, in which he delivers himself of opinions upon the mental condition of any or every criminal in the land. The cases of COCHRAN, who robbed the Philadelphia Mint, and of PRENDERGAST, who killed the Mayor of Chicago, have not escaped the eternal vigilance of the newspaper expert. Their cases are diagnosticated at once by men who live hundreds, perhaps thousands, of miles from them, and who have never had the privilege of more exact knowledge of them than is to be obtained from a sensational newspaper report. We have abstained purposely from comment upon COCHRAN's case before trial, and we do not intend to comment in detail upon it now, although we are credibly informed that the trial will probably be ended before this writing sees print. We shall only state that we shall publish in due time an authentic medico-legal report of the case by one of the experts employed by the Government to determine the prisoner's mental condition.

Undoubtedly the newspaper interviews, in which opinions are ascribed to physicians, are not always authentic, and sometimes they do the alleged author grave injustice. These interviews, in a word, are evidences of the lax morale that pervades the modern guild of news-getters, rather than of the unbridled speech which is put in the mouth of the unfortunate, but not blameless, expert. Such an interview, among several, has recently come to our notice, in which the case of COCHRAN is discussed with great freedom. If it is the fiction

of a reporter, as we sincerely trust it is, it is all the more appropriate for our purposes as a text, as it thus assumes in our comments a strictly impersonal part.

An alienist who had never seen COCHRAN was made, by an invidious reporter, to dramatize somewhat as follows. He was made to premise by saying that his opinion was founded upon "data furnished by the newspapers." He was then made, without more ado, to pronounce COCHRAN's condition to be that between paresis and senile dementia. He "hovered between the two diagnoses," which closely resemble each other (*sic*), until he was more amply informed. He then thought it "reasonable to assume" that the man has premature senile dementia. He thought that COCHRAN's love for gold is like the fascination of the general paretic for bright objects, but he gave not one scientific datum or observation upon which to base this generous assumption, except a rather stale illustration of paretics "picking gold-leaf from their skins," nothing resembling which in the remotest degree had ever been asserted of COCHRAN, even in the newspapers. He thought that the prisoner showed a "gross defect of judgment" when he visited Washington, in fear and trembling, to avert the opening of the vault and the disclosure of his dishonesty, and again when, being hopelessly cornered, he confessed. This defect of judgment and this confession are therefore pathognomonic of insanity. The expert is further quoted as having said that in senile paresis thefts are likely to occur "merely from forgetfulness," when even the newspapers described the long years of stealing, the crucible and the melter's tools, and the chests and safes of the old bullion-weigher, most cunningly devised and disposed. He is made to say that such a man "loses sight of the proprieties," when in fact COCHRAN in appearance was a truly good man and a church-member. He is then described as indulging in vaticination and predicting that COCHRAN would at once have a lucid interval, so that in court he might present the appearance of a "penitent humbug or clumsy swindler," when in fact we know from good evidence that COCHRAN has appeared in neither of these rôles. Finally, our imaginary alienist was made to say "to the physician, COCHRAN would exhibit some exact signs, either of the pupils, of the muscular movements, the reflexes, his speech, his expression of face and his memory, which would establish the morbid nature

of his crime beyond peradventure." But we know that COCHRAN has exhibited none of these.

So we have two kinds of experts. The first and greater of these stands for study, for observation, for candor, for science, for justice, and for professional tradition. The second and lesser of these stands for rumor, for guess-work, for sensationalism, for newspaper notoriety, and, above all, for self.

THE PROGNOSIS OF MALIGNANT ENDOCARDITIS.

WE are too prone to consider malignant endocarditis a necessarily fatal disease. At any rate we waver in our diagnosis if recovery ensue in a given case. If, however, we look upon malignant endocarditis simply as one extreme of the varied types that inflammation of the endocardium may assume, the fact will be forced upon us that there must be some cases in which the degree of malignancy is not so great as to irrevocably condemn the patient to death. The point that we would make is that so-called malignant or ulcerative endocarditis represents a condition removed clinically and pathologically only in degree from other varieties of endocarditis. Certainly, the distinction is often difficult to make, both at the bedside and in the dead-house, and, as we have indicated, the criterion is not uncommonly the survival or the death of the patient.

In view of all of the circumstances then, the diagnosis of malignant endocarditis with recovery at the hands of competent observers cannot be rejected. A case in point is recorded by FINLAYSON (*Archives of Pediatrics*, vol. x, No. 11, p. 937). It was that of a boy, ten years old, who came under observation in an attack of rheumatism, and with a history of two previous attacks. The mother was rheumatic and the father had died of some disease of the heart. The child at no time presented signs of valvular disease. While under observation a pericarditis with effusion developed. In the further progress of the case there were frequent paroxysms of pyrexia, attended with nausea and vomiting. The emaciation was pronounced, and several times death seemed imminent. Toward the close of the illness, which lasted for nine months, there were present for many weeks distinct, soft, fluctuating swellings upon the dorsal aspect of the carpus on both sides. Indications of embolism were carefully looked for, but could not be detected. Recovery was ascribed largely to forced nutrition.

The diagnosis in this case may be criticised from the absence of direct signs of endocardial inflammation, such as a murmur, but it is pointed out that ulcerative endocarditis may be unattended with any lesion of the valves recognizable during life. The knowledge that malignant endocarditis is not necessarily fatal must thus act as a stimulus to its energetic treatment.

EDITORIAL COMMENTS.

Inoculation-diphtheria in Milch-cows.—The importance of the question as to the transmissibility of diphtheria by means of cow's milk, and particularly through the intermediation of the udders of diseased animals, is entirely too obvious to require discussion. Any light upon such a subject must hence be extremely welcome. A. C. ABBOTT (*The Journal of Pathology and Bacteriology*, vol. ii, No. 1, p. 35) reports the outcome of an investigation as to the results produced in milch-cows by inoculations of the bacillus diphtheriae, which are somewhat at variance with the conclusions of a previous study of similar kind made by Klein. While the latter reported the occurrence of lesions upon the udders of inoculated animals, in addition to the local lesions at the site of inoculation, all containing virulent diphtheric bacilli, Abbott failed to observe any lesions upon the udders and was able to find the bacilli only on the local lesion. Klein also found bacilli in the milk of the infected animals, while Abbott did not. Other things being equal, the positive observations in a single series of experiments must have greater weight than the negative observations in a corresponding series, so that a decision in the matter must yet be held in reserve. Further studies will be required to determine which of the two opposed conclusions is to be accepted, and as the subject is of such profound importance, it is to be hoped that these studies will not long be wanting. In Abbott's paper attention is called to variations in the morphologic appearances of undoubted diphtheria bacilli dependent upon variations in the culture-medium.

Farming Out the Business of Surgery.—It seems that a company has been formed with headquarters in New York City, with hindquarters in Chicago—and perhaps with other parts scattered over the country—which makes a business of insuring against accidents and casualties. There also appears to be some mysterious business arrangement whereby workmen, willy-nilly, are to be made recipients of the bounty and the tender care of the contract surgeon. Here is a copy of a letter received by a surgeon in Chicago from the "attorney" of the company:

"DEAR SIR: Your name has been furnished me as a surgeon whom Messrs. — & — Company would like to have attend employés injured at their plant.

"Messrs. — & — Company are insured in the — — & — Company, and, by their policy, this Company, which I represent, pays all reasonable doctor's bills for attendance on injured employés.

"I enclose two schedules of medical charges used by the regular surgeons of this Company, and would request that you look the same over, and advise me if you

would care to work pursuant to the rates mentioned therein.

"Upon receipt of a favorable reply from you I will advise Messrs. — & — Company that you have accepted our schedule, and request them to call you in all cases of accident to their employés.

"Yours truly, — — —"

The following is the schedule of charges:

Day visit	\$1 00
Night visit (between the hours of 8 P.M. and 6 A.M.)	2 00
Mileage to unusual distances 10 cents per mile additional fee.	
Office consultation (ordinary)	50
Dressing hand or foot, first time, in ordinary coupling accidents—	
Day	2 00
Night	3 00
Subsequent dressings (at home office) when absolutely necessary	1 00
The following charges include after-treatment in ordinary cases. They are established with the understanding that extra attendance, if unusual complications arise in the cases specified, may be charged for in addition; but in such cases, as well as in all others not provided for, the extra charges shall not exceed 50 per cent. of the usual fees in like cases.	
Amputation at hip-joint	75 00
" of thigh	50 00
" of leg	25 00
" of arm or forearm	20 00
" of finger or toe	5 00
" of metacarpal or metatarsal bones (according to gravity of case)	\$5 00 to 10 00
Reducing and dressing fracture of thigh	25 00
" " " of leg	15 00
" " " of arm or forearm	5 00
" " " of finger or toe	5 00
" " " of jaw	10 00
" " " of clavicle	10 00
" " " of ribs (according to the gravity of cases)	\$5 00 to 10 00
" " " of patella	20 00
Reducing dislocation of hip-joint	25 00
" of patella	10 00
" of ankle	15 00
" of shoulder	10 00
" of elbow	10 00
" of lower jaw	5 00
Trephining skull	40 00
Dressing incised or lacerated wounds (according to gravity of case)	\$1 00 to 5 00
Cutting down upon and ligating important arteries, \$10 00 to 25 00	
Reducing ordinary hernia and application of truss in cases due to accident occurring in discharge of duty	5 00
Operations for strangulated hernia	\$30 00 to 50 00
Introducing catheter	1 00
Applying galvanic battery—first application	1 00
" " " subsequent applications	50

The Bicyclist Should Sit Erect.—We have previously alluded to the danger to health from the common practice of the bicycle-rider doubling himself up like a capital C. We are glad to notice that a most eminent English physician, Sir Benjamin Richardson, himself an enthusiastic rider, has also been warning the public in this matter. Bicycling is such a noble and beautiful form of athletics that we should do all we can to keep it from becoming injurious by evil habits and tendencies. Sir Benjamin says:

"There is no doubt that a great deal of harm is at present being done by injudicious cycling. The attitude that nearly all cyclists adopt, to a greater or less degree—bending themselves forward over the handles of their machines—is undoubtedly most unhealthy. And, though I cannot explain the reason for taking up such an attitude, I know that I have to keep a careful watch over myself to maintain an erect position."

"The doubled-up position does more harm than people imagine. Of course, everybody knows that it is ugly. The spinal curves are the most perfect in nature, both for strength and beauty, and these are destroyed. The top of the anterior curve is brought forward—and I am not sure that the posterior curve as well is not affected—until the spine becomes almost an arc. The chest-bone is then affected by the unnatural pressure placed upon it. The circulation is impaired, and, no doubt, the lungs are interfered with, too. In fact, there is hardly any possible evil effects which it does not produce."

The Fog-horn Nuisance.—Among the grand benefits of civilization none is more praiseworthy than the safeguards thrown about those "who go down to the sea in ships." The life-saving stations, the light-houses, the channel-markings, and the hundred signs of forethought and solicitude for the safety of our sailors and their freights, are striking instances of the true functions of government and of social progress. It becomes at least very questionable, however, if we are not in some ways running into exaggeration—for example, by putting fog-horns so near thickly-populated shores. We read that on foggy nights, when the fog-horns are continually sounded, a large part of the population of Chicago is unable to sleep because of the intolerable ear-tearing blasts of the instruments guarding the harbor of the city. The sick and nervous people have great distress, and those not sick and nervous are being made so. The noise-injury to the modern nervous system is subtle, great, and serious.

The Etiology of Pernicious Anemia.—Our classification of anemia is eminently unsatisfactory, by reason of our lack of knowledge as to the actual processes upon which the several forms depend. Our therapeutics is thus weakened, for it is not always possible in a given case to determine whether the blood-poverty is dependent upon undue hemolysis or defective hemogenesis. Of the etiology of that special form of anemia to which the designation essential or idiopathic or pernicious has been given, our definite knowledge is perhaps least. Many observers have carefully examined the blood in the hope of finding therein the causative agent, but none of the findings hitherto made has withstood the test of time. The latest contribution to this subject is an article by PERLES (*Berliner klinische Wochenschrift*, 1893, No. 40, p. 963), who in a preliminary report describes minute bodies that he found in the blood of each of three cases of pernicious anemia, but failed to find in the blood in a large number of cases of secondary anemia. The organisms are believed to be parasitic protozoa and to exert a destructive influence upon the hemoglobin. They are described as being from 3 to 4 μ long, about one-fifth as wide and about one-twentieth as thick. They are highly refracting and possess the power of spontaneous motion. Appendices have been observed upon some of the organisms, but true flagella were not distinguishable. In the cases examined the number of organisms present was in direct proportion to the gravity of the case.

Organic Liquids.—We have been credibly informed that Brown-Séquard is as firm as ever in his belief in the efficacy of organic liquids prepared according to the methods described by him. He has, however, taken up other lines of work, so that this particular method of

treatment has fallen into a secondary place with him. A circular received from the Laboratory of Medicine of the College of France announces that it can no longer supply the demands of the profession for the organic liquids. The method of preparation is, however, said to be so simple as to be possible of execution by any intelligent physician or chemist. A brochure descriptive of the method has been written by D'Arsonval, the collaborator of Brown-Séquard in the preparation of the liquids, and issued by Masson, the well-known Paris publisher. Attention is called to the fact that no reliability can be placed on any of the numerous officinal extracts of organic liquids upon the market.

A Query in Medical Ethics.—A correspondent inquires whether the following advertisement, inserted in newspapers, is in violation of the Code of Ethics of the American Medical Association :

"Dr. John Smith, physician and surgeon, office and residence _____, will answer calls day or night. Specialty, the treatment of drunkards, with success. No humbug! No treatment by correspondence."

It is, of course, against the Code. Generally speaking, it is a bad thing to do; this particular thing is especially bad, and the particular manner of this doing makes it particularly bad.

The Relation between General Paralysis of the Insane and Syphilis.—DEWEY (*Chicago Medical Recorder*, vol. v, No. 4, p. 233) makes an exceedingly interesting and valuable contribution to the etiology of general paralysis of the insane. He reports three series of cases of general paralysis in both husband and wife, in some of which syphilitic infection was admitted or obvious, while in the remainder it was extremely probable. The frequency with which wives are infected with syphilis by their husbands is difficult of determination, but it may reasonably be great.

The Chicago Clinical Review has undertaken a commendable enterprise in its endeavor to record the titles of the most important contributions to medical literature from month to month, together with an alphabetic list of the more valuable clinical articles. The efforts of the *Review* should receive the hearty encouragement of medical writers and medical journals.

SELECTION.

DR. J. S. BILLINGS ON THE EFFECTS OF HIS OCCUPATION UPON THE PHYSICIAN.

THE word "profession," as applied to medicine, refers to the existence of a body of men who profess, or publicly claim, that they have special knowledge, the result of which, in the shape of advice and, in some cases, of manual skill, they offer to the public. It is understood that the relations which a professional man holds to his clients, to his professional brethren, and to the public at large, are somewhat different from those which exist among laborers, mechanics, and tradesmen. Some of the requirements based upon these relations—such as the really having the special knowledge and skill claimed, and the obligation of secrecy as regards the affairs of

his clients—are truly ethical; others are merely matters of custom and manners, and pertain to etiquette rather than to ethics.

For example, it is a fundamental principle of professional etiquette that it is improper to ask the public or individuals to give one employment, except in so far as such a request is implied in a simple notice, giving name, profession, and office-hours. As I have said elsewhere—

"The ordinary forms of business competition, by advertising the qualities of one's wares, or cheap prices, or by calling attention to superior results obtained, are not permitted to the professional man, so far as the public is concerned. He not only may, but should, publish accounts of his work when this involves anything new and useful to his profession, because this is for their benefit; but such publication should be made in a professional journal, and not in the daily press, because in the latter it would be practically an advertisement."

There is nothing essentially immoral or unethical in advertising, so long as the truth is adhered to; but when a physician subscribes to, and agrees to abide by, the regulations of a certain code which, among other things, forbids such advertising, it then becomes unethical to break such agreement. This is the reason why codes are framed: in order to exercise a certain amount of compulsion upon those who subscribe to them. Obedience to such a code becomes a habit, and produces a disposition to consider all the prescriptions of the code as being in themselves ethical, or resting on ethical grounds; and that any man who acts otherwise is acting wrongly and unethically, although he has never subscribed to the code and is not bound by it. Many physicians gradually come to consider their code of medical etiquette as a sort of formula of religious faith, and are almost as much shocked at propositions to change or to abandon any part of it as they would be at a suggestion to change the Ten Commandments, and perhaps it is well, upon the whole, that this should be the case.

The occupation of a physician in general practice influences his habits in several ways. I will specify but a few. First, it tends to make him cautious in the use of intoxicating drinks. Not only are the evil effects of excessive use of alcoholic fluids brought to his notice almost daily, but he knows that it is never safe for him to drink enough to cloud his judgment or to affect his speech or gait. He never knows but that he may be called the next moment to see an important case, and he does know that even a suspicion that he is under the influence of alcohol when thus called upon will seriously injure his business. In the second place, his work cultivates the habit of self-sacrifice. However much he may try to adjust his daily round to suit his own convenience, he must continually obey calls which seriously interfere not only with his pleasures and social enjoyments, but with his comfort, and sometimes with his health. He must turn out from his comfortable bed on cold and rainy nights; he must miss his meals; he must give up the little excursion which he had planned; he cannot plead a headache, or a cold, or weariness, as a sufficient excuse for declining to obey a call from one of his patients.

This self-sacrifice becomes habitual; he does not question, and doubt, and hesitate as to whether he might or might not properly refuse, but under ordinary circum-

stances simply obeys—and it does not even occur to him that there is anything specially praiseworthy in his doing so.

It is a common idea that the practice of medicine tends to blunt the feelings—to make one less sympathetic with suffering, and also to induce a comparatively low view of human nature—owing to the many weaknesses, immoralities, and even crimes with which the physician necessarily becomes acquainted. It is true that the physician knows of many private skeletons carefully closeted, the existence of which the world does not suspect, and in this respect he is like a priest; but he also becomes acquainted with much self-sacrifice, devotion to duty, and love which is stronger than death, which are equally unknown to the public, and upon the whole I do not think that his work tends to the atrophy of his emotional faculties, although it may sometimes lead to their exercise in somewhat special directions. He sees many cases in which what most people call vicious and even criminal manifestations appear to him to be largely due to physical abnormality or disease, cases of periodic drunkenness, of reckless licentiousness, of weakness of will-power, of morbid conscientiousness, and the like, for the evil tendencies and results of which he can hardly hold the persons mentally and morally responsible. It becomes natural to him to consider such manifestations with less aversion, and to be less severe in his condemnation of the individuals in whom they appear, than most people are inclined to do; in other words, he becomes more charitable in his interpretation of motives.

The physician is called upon sometimes to decide very difficult problems in the matter of giving truthful answers to the questions which are asked of him. In a certain number of cases the great majority of, if not all, physicians will decide that it is their duty to give a false answer, or at all events to give a false impression—either for the purpose of avoiding the immediate danger to the life of the patient which a true statement to him might produce, or for the purpose of preserving secret certain information of which he has come into possession in the course of his professional work. I do not think that this tends to lower his standard of accuracy and truthfulness in other matters; but it does tend to make him more independent of the literal verbalism of a creed, and more ready to rely on his own judgment in certain ethical matters. On the other hand, much of the work of a physician tends to make him critically accurate in the observing and noting of phenomena, and in the application of remedies. The use of apparatus for counting, weighing, and measuring, which will give results independent of the personal equation of the user, is one of the characteristics of modern medicine. The doctor does not ask whether the patient has fever, but "what is his temperature?"

This habit of precision and accuracy is increased by the necessity for punctuality in the daily work of a busy physician. His appointments with his patients and with the physicians whom he is to meet in consultation must be kept if he is to succeed, and his time must be portioned by minutes.

The fact that physicians serve the poor without pay exercises a very considerable influence upon the development of their moral character. Undoubtedly much of this service in the earlier part of a physician's life is

given for the sake of the experience which he thus obtains, but it is also true that the doing of this makes it a habit, and, as Dr. Weir Mitchell says—

"The virtues which grow to be thoughtlessly habitual are none the less virtues. We tell the truth, are honest, are just, or punctual because the qualities in question have grown to be a part of us. At last they exact no effort, involve no indecision, and above all, no self-praise."

The study and practice of medicine do not necessarily make a man virtuous, or honest, or a gentleman; in a few cases, as shown by the records of the courts, the special knowledge and opportunities of the physician may have led men to commit crimes which they would not have attempted if they had not been medical men—but, fortunately, such cases are very rare.

In the great majority of cases the special influence of the medical life of the present day is to broaden the views of the man who lives it, to make him independent in judgment; rather skeptical as to the occurrence of the millennium in the near future; quite incredulous as to the truth of the maxim that "all men are born free and equal;" more inclined to consider and perform the immediate evident duty of the day and hour which lies just before him than to reflections upon the errors of other men; free from morbid fear of death, and of that which comes after death; and none the less a believer in the existence of a Supreme Being and in the fundamental principles of religion, although he may not consider them capable of scientific demonstration.—JOHN S. BILLINGS, in the *International Journal of Ethics*.

CORRESPONDENCE.

A BREECH-PRESENTATION, WITH FRACTURE OF THE FEMUR.

To the Editor of THE MEDICAL NEWS,

SIR : During thirty-three years of active practice, and with a record of 2719 cases of childbirth, it had been my good fortune not to have had a case of fracture of any of the long bones in delivery until last March.

Summoned about 4 P.M. to attend a primipara, I found the patient to be a very large, fleshy woman, whose limbs were distended to an enormous degree with water, greatly impeding locomotion. Her pains were regular, severe, and close upon each other. Thinking that labor was progressing rapidly, I requested and made an examination, under antiseptic regulations, and found a very hard, rigid os, dilated to about the size of an ordinary five-cent nickel-piece. Ordering a pill containing five grains of quinine sulphate every hour, I left, promising to return in the evening.

Returning at about 8 P.M., I found the pains still regular, strong, and quite close together. An examination revealed a still rigid os, but somewhat more dilated than at the previous visit, though not sufficiently to permit making out the presentation. I administered an emetic of ipecacuanha, which acted promptly.

After waiting half an hour another examination was made, and I found not only a soft, dilating os, but the membranes ruptured, and a breech presenting. Some twenty minutes later the patient was seized with a

of his crime beyond peradventure." But we know that COCHRAN has exhibited none of these.

So we have two kinds of experts. The first and greater of these stands for study, for observation, for candor, for science, for justice, and for professional tradition. The second and lesser of these stands for rumor, for guess-work, for sensationalism, for newspaper notoriety, and, above all, for self.

THE PROGNOSIS OF MALIGNANT ENDOCARDITIS.

WE are too prone to consider malignant endocarditis a necessarily fatal disease. At any rate we waver in our diagnosis if recovery ensue in a given case. If, however, we look upon malignant endocarditis simply as one extreme of the varied types that inflammation of the endocardium may assume, the fact will be forced upon us that there must be some cases in which the degree of malignancy is not so great as to irrevocably condemn the patient to death. The point that we would make is that so-called malignant or ulcerative endocarditis represents a condition removed clinically and pathologically only in degree from other varieties of endocarditis. Certainly, the distinction is often difficult to make, both at the bedside and in the dead-house, and, as we have indicated, the criterion is not uncommonly the survival or the death of the patient.

In view of all of the circumstances then, the diagnosis of malignant endocarditis with recovery at the hands of competent observers cannot be rejected. A case in point is recorded by FINLAYSON (*Archives of Pediatrics*, vol. x, No. 11, p. 937). It was that of a boy, ten years old, who came under observation in an attack of rheumatism, and with a history of two previous attacks. The mother was rheumatic and the father had died of some disease of the heart. The child at no time presented signs of valvular disease. While under observation a pericarditis with effusion developed. In the further progress of the case there were frequent paroxysms of pyrexia, attended with nausea and vomiting. The emaciation was pronounced, and several times death seemed imminent. Toward the close of the illness, which lasted for nine months, there were present for many weeks distinct, soft, fluctuating swellings upon the dorsal aspect of the carpus on both sides. Indications of embolism were carefully looked for, but could not be detected. Recovery was ascribed largely to forced nutrition.

The diagnosis in this case may be criticised from the absence of direct signs of endocardial inflammation, such as a murmur, but it is pointed out that ulcerative endocarditis may be unattended with any lesion of the valves recognizable during life. The knowledge that malignant endocarditis is not necessarily fatal must thus act as a stimulus to its energetic treatment.

EDITORIAL COMMENTS.

Inoculation-diphtheria in Milch-cows.—The importance of the question as to the transmissibility of diphtheria by means of cow's milk, and particularly through the intermediation of the udders of diseased animals, is entirely too obvious to require discussion. Any light upon such a subject must hence be extremely welcome. A. C. ABBOTT (*The Journal of Pathology and Bacteriology*, vol. ii, No. 1, p. 35) reports the outcome of an investigation as to the results produced in milch-cows by inoculations of the bacillus diphtheriae, which are somewhat at variance with the conclusions of a previous study of similar kind made by Klein. While the latter reported the occurrence of lesions upon the udders of inoculated animals, in addition to the local lesions at the site of inoculation, all containing virulent diphtheric bacilli, Abbott failed to observe any lesions upon the udders and was able to find the bacilli only on the local lesion. Klein also found bacilli in the milk of the infected animals, while Abbott did not. Other things being equal, the positive observations in a single series of experiments must have greater weight than the negative observations in a corresponding series, so that a decision in the matter must yet be held in reserve. Further studies will be required to determine which of the two opposed conclusions is to be accepted, and as the subject is of such profound importance, it is to be hoped that these studies will not long be wanting. In Abbott's paper attention is called to variations in the morphologic appearances of undoubted diphtheria bacilli dependent upon variations in the culture-medium.

Farming Out the Business of Surgery.—It seems that a company has been formed with headquarters in New York City, with hindquarters in Chicago—and perhaps with other parts scattered over the country—which makes a business of insuring against accidents and casualties. There also appears to be some mysterious business arrangement whereby workmen, willy-nilly, are to be made recipients of the bounty and the tender care of the contract surgeon. Here is a copy of a letter received by a surgeon in Chicago from the "attorney" of the company:

"DEAR SIR: Your name has been furnished me as a surgeon whom Messrs. — & — Company would like to have attend employés injured at their plant.

"Messrs. — & — Company are insured in the — — & — Company, and, by their policy, this Company, which I represent, pays all reasonable doctor's bills for attendance on injured employés.

"I enclose two schedules of medical charges used by the regular surgeons of this Company, and would request that you look the same over, and advise me if you

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[Extract from the *New York Medical Journal*, October 14, 1893.]

GOLD IN THERAPY.

By E. A. WOOD, M.D.,
PITTSBURGH, PA.

Read before the Mississippi Valley Medical Association at its Nineteenth Annual Meeting.

Gold is one of the old remedies which have been crowded to the wall by the more brilliant achievements of modern pharmacy. It is safe to say that one half of the medical profession never prescribe gold; the large body of the other half use it occasionally, while a very small minority employ it constantly in the class of cases in which it is best suited.

Gold, practically, to the main body of the profession is a new remedy. It would seem timely and just to drag the old drug from its dusty closet that we may learn what standing it really deserves in therapeutics. What is its place?

What say authorities in reply to this question? In view of its great age it is astonishing how meagre the literature. It is still more astonishing that until within a very recent period we had practically but one preparation of gold—the chloride of gold and sodium.

My more immediate purpose is to direct your attention to some preparations of gold other than that of the chloride of gold and sodium, samples of which are before you.

The first preparation I shall notice, and the one with which I am best acquainted through prescribing it for the past seven months, is the Liquor Auri et Arsenii Bromidi. The successful combining of gold with bromine, mercury, arsenic, and other metals, is due to the indefatigable labors of Dr. W. F. Barclay, of Pittsburgh, who persevered in the face of the decree of some chemist that such compounds are impossible. There stands the liquid bromide of gold and arsenic. As there is no filtering employed in the manufacturing, every atom of the metals must be present. I know that after months' standing not a shadow of sediment mars its complete transparency. It is almost tasteless. The dose—ten drops—contains one thirty-second of a grain of gold and one sixteenth of a grain of bromide of arsenic. This preparation is pleasant to take, is more readily absorbed than the chloride of gold and sodium, and, in my experience, is more assimilable and active.

The class of diseases in which I have found gold to be peculiarly efficient, and in which it seems to be especially curative above all other drugs, is that class in which sclerosis is the chief factor. In naming scleroses as a class, I am perhaps taking undue liberty with the nomenclature of the pathologist. Literally, it is proper to apply the term sclerosis to any organ or tissue in which induration is the factor. Sclerosis has a wider and, it seems to me, a more significant meaning than has been hitherto attached to the word and the lesions it names. It would seem as though we have reduced therapeutics to an exact science when, instead of name, we establish an exact pathological condition, with the remedy most efficient in removing that condition. That is the exactitude we have in gold as a special curative agent in all forms of sclerosis. Cirrhosis of the liver, interstitial nephritis, atheroma and its associate, calcareous degeneration of the arteries; the circumscribed induration following embolism or blood-clot in the brain tissue, senility and its train of decrepitudes—for what is old age but a general sclerosis—all belong to the class I have named. Cirrhosis of the lungs, certain forms of consumption—fibroid consumption, miliary tuberculosis, and especially that form of consumption in which masses of lymph become organized in the lymphatics of the lungs as we see the process in the glands of the neck and called adenitis. I will state as my belief, founded on an experience of twenty years, that gold is far more efficient in them all than any other drug I know of. I desire to say in addition that the liquid preparations of gold as combined with bromine, arsenic, iodine, and mercury are as much superior to the chloride of gold and sodium as quinine is superior to the crude Peruvian bark.

In addition to its efficiency in the scleroses it would seem as though gold, at least the Liquor Auri et Arsenii Bromidi, exercises a power as a tonic and nutrient to the nervous system, especially to the nervous systems of those who have advanced to fifty and beyond. Etc., etc.

To the Medical Profession:

In view of the fact that special skill, care, and facilities are required for the manufacture of my preparations of gold, including "Liquor Auri et Arsenii Bromidi," "Liquor Auri, Arsenii et Hydrargyri Bromidi," and others, and that without the exercise of such skill and care the result is a mere mixture of the salts employed, which in no sense resembles the complete combination in therapeutic value I have deemed it important to place my preparations in the hands of competent chemists, and have granted the sole permission to use my formulae to Messrs E. M. JOHNSON & Co., 38 Platt Street, New York City. I respectfully refer my professional colleagues to this firm in all matters relating to the commercial aspect of the subject, while on the other hand I will be pleased to personally answer inquiries regarding the therapeutic action of the preparations. Respectfully,

W. F. BARCLAY, M. D., 474 FIFTH AVENUE, PITTSBURGH, PA.

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DOSE.—One or two teaspoonfuls four times a day (preferably between meals).

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